RPM Remote Print Manager®
User Manual

Version 2.5
Brooks Internet Software, Inc.
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Introduction

What is RPM?

RPM Remote Print Manager® is a TCP/IP print server for Microsoft Windows 95, 98, and Millennium Edition platforms using native TCP/IP networking. There are also versions available for Microsoft Windows NT/2000/XP, Windows 3.1, and Windows for Workgroups 3.11.

RPM allows print clients to send print requests directly to a PC over a network. RPM supports the LPD Protocol for Internet printing, and the associated UNIX print commands lpr, pr, lpq, lprm, lp, and lpstat.

RPM was designed to run, after initial setup, without manual intervention.

RPM supports multiple named queues. It allows you to choose any printer available from Windows, and stores any print setup selected for a specific queue. It also supports fonts, margins, line wrap and many other text features. RPM will pass print data directly to a printer without modification, open the data in a program, or save the data to disk instead of printing.

RPM has been tested extensively with all the major PC network software including the Microsoft Windows for Workgroups TCP/IP, Novell, and Trumpet. RPM accepts requests from mainframes running MVS, CMS, and CICS; from UNIX workstations; and from PC-clients with a supported LPR application.

RPM is a fully featured and supported product, and is the only professional LPD server available separately from bundled networking suites. We believe it is the best LPD server available anywhere.

What is LPR/LPD?

LPR/LPD is the printing method most commonly used in TCP/IP networks. LPR/LPD is used extensively on university and business campuses where UNIX systems have been in place for a while; the new generation of operating systems, for both mainframe and desktop, now support TCP/IP and LPD as well. It is a computer-to-computer printing method, rather than PC-to-PC. LPR stands for Line Printer Request; it's the part that submits the print request. LPD stands for Line Printer Daemon; it's the part that receives and processes the request. A "daemon" is a server or agent.

The LPD Protocol Specification is documented in RFC 1179, Line Printer Daemon Protocol, dated August 1990, edited by L. McLaughlin III.

RFC stands for Request for Comments. The RFCs document Internet protocols, practices and proposed standards. They are available via anonymous FTP at http://www.ietf.org/rfc.

RPM Features

Named queues

RPM supports multiple named queues (see "Queues" on page 8). There is no fixed limit to the number of queues. Each queue has its own setup information. Queues operate independently of each other. Each queue has its own printer setup (page 51) and queue type (page 8). You can configure separate queues for the same printer, each with different characteristics.

Queue types (page 8) include text queues, which support many print options; pass-through queues, which send data directly to the printer; and filter queues, which run a program on your PC rather than printing directly.
At any time in RPM you can create a queue (page 14), rename a queue (page 15), delete a queue (page 14) or jobs in the queue (page 24), and edit the settings in an existing queue (page 14).

Print Options

- RPM supports all the print options available through standard Windows Print Setup dialog. Each queue uses its own print options, so you could create a number of RPM print queues, each with separate print options, to fully support your printing needs.
- RPM supports both local and network printers, for text and pass-through queues. If Windows supports your printer, then RPM can print to it.
- RPM prints the optional banner page; RPM also allows you to suppress printing banner pages for a queue.
- RPM supports pr style printing, using the optional page headers.
- RPM has many features requested by mainframe users, including suppressing trailing blank pages, removing null characters from a printout, line wrap options, lines per inch and characters per inch, overprinting, and scaling the font down to support a given line length.

User Interface (UI)

- RPM displays comprehensive information on queues (see "Queue Status window" on page 18), active jobs in queues, jobs waiting in queues, print jobs (see "Print Status Window" on page 22), and all logged events (see "Log window" on page 20) in separate, independent windows.
- Queue operations are available through the menus, but are hot-wired into the Queue Status window for convenience.
- All windows support Copy (page 24) to clipboard.
- RPM supports a wide range of logging options (page 16).
- RPM uses a workbook interface rather than cascading windows. Both the Queue Status and Log windows are always open.
- RPM displays dates and numeric data in Windows using the regional settings.
- Only one RPM session runs at a time under Windows 9x.
- RPM saves the size and location of the main window. RPM does not need to be visible to operate. The child windows are for display purposes only, and they do not need to be open for RPM to operate.
- RPM supports context sensitive help. You can get help for every window, menu item, and dialog by pressing the F1 key or using the Context Help button on the toolbar.

Support

RPM includes a number of features to facilitate problem solving, including copying window contents to the clipboard and the extensive logging options.

Our policy is to resolve problems to the best of our ability, and to cooperate with other vendors. We are very interested in your impressions of RPM. If there is anything we can do to make RPM more useful for you, please don't hesitate to contact us. See page iii for contact information.

Requirements

What does your computer need in order to run RPM? If it runs Microsoft Windows and TCP/IP is installed, it will also run RPM. Other requirements are needed depending on the usage of RPM.

- Intel compatible computer, 486SX Minimum, Pentium recommended.
- Microsoft Windows 95, 98, or Millennium Edition
- Windows Sockets version 1.1 or later compatible network software. Your system must have the file winsock.dll or RPM will not install.
- Minimum RAM: 8 megabytes; we recommend at least 32 megabytes depending on utilization of computer or other operating system requirements.
- 3.0 MB for installed executables and other files
- Adequate disk space for incoming print requests-recommended minimum 2 MB

- Optional: One or more printers configured to work with Windows. Printers are 'optional' because RPM can save files to disk or open them using a local program on your computer.

Installing RPM

RPM is distributed with a Windows setup program which installs the RPM software on your computer. The setup program installs the RPM software in its own Program group, but you can move those icons to any other location without affecting RPM.

Here's the step-by-step install process:

1. If you have RPM on disk, insert the disk in your computer. Go to the Windows 'Start' menu, select run. Type *'x:\setup.exe'* substituting your drive letter for 'x' and press OK. Or you can install from the Add/Remove programs option in the control panel. If you have the downloaded RPM executable, simply double-click the file to begin the installation.
2. Take note of the End User License Agreement. Please review it to make sure the terms are understood. Click either '*Yes*' or '*No*' to represent your acceptance of these terms. The setup program will continue only if you accept.
3. Setup presents a suggested path for the RPM install folder. Change this path as needed and click *Next* to continue with the installation.
4. Setup then suggests a program folder to install shortcuts to commonly used files. Change this name if needed and click *Next* to continue.
5. RPM will now be installed. You will see a progress bar which shows the percentage completed, and messages that describe the various components. Setup then adds an RPM program group to the 'Start' menu. A copy of the End User License Agreement is installed along with RPM program and help files.
6. RPM is now installed. To begin using RPM, click the RPM program icon (by default, it is titled "RPM").

Each time you run RPM it:

- Checks for a valid license. If the product license is unlocked, or if it is in the trial period, then RPM continues. If the license is expired then RPM displays a message and opens the Brooks License Manager.
- RPM calculates the number of currently defined queues. If there are no queues, RPM presents the New Queue dialog and the Edit Queues dialog repeatedly, until you click the Cancel button in the New Queue dialog.

When you are finished defining queues, click Cancel in the New Queue dialog. RPM is now operational. You should remove any previously installed versions. You can also place a shortcut in the Startup program group so that RPM starts automatically when a user logs on.

Configuring Remote Clients for RPM

Minimum requirements

The minimum information you need to supply to your remote print client is the host name of your PC, and a queue name. For more information on these terms, see the Glossary in the back of this book.

☞ **Note**: there is no default queue in RPM. You must create at least one queue. When RPM is started the first time, the "Create a Queue" dialog is displayed. See page 34 for more information.

What to Name your RPM Queue

When a print client makes a request for a queue that is not defined, RPM automatically creates a queue with the appropriate name. You can turn off this "Auto-Create" feature in the Settings Dialog. If "auto-create" is turned off and RPM receives a request for an undefined queue, a warning is logged.

It is not always easy to see the warning that RPM returns. To determine which queue name the client is using:

- Open the *Log* window if it is not already open, by selecting *Log* from the *View* menu or clicking the *Log* tab at the bottom of the main RPM window.
- On your remote system, rerun the command.
- At the bottom of the RPM log window, check for a message similar to this: "Warning: Queue 'test' is not defined."

In this example, *test* is the name of the queue the remote client is using. You should either reconfigure your remote client, create a queue (page 14) in RPM with the same name, or rename an existing queue (page 15). You can also enable the "auto-create" feature in RPM (page 53).

Choosing the Right Protocol for Your Client

RPM currently supports the LPR/LPD protocol, sometimes known as the Berkeley remote printing protocol. RPM also supports streams or reverse telnet; see page 55 for more information. Future versions of RPM may support a wider variety of protocols.

Brooks Internet Software does not currently have access to all the varieties of systems our customers print from. Based on our experience, we can offer the following guidelines to help you pick the right buzzwords if you need to select a protocol:

- If you see a choice for LPD, pick that one
- If you see a choice for remote Berkeley or remote BSD, pick that one
- If you see a choice to emulate an LPR client, pick that one
- If you have a Berkeley compatible UNIX system, consult the printcap man pages for assistance.
- If you have a System V compatible UNIX system, do not use lp; use Berkeley compatible. You will need to consult your documentation or a local system administrator for details.

Order of Control File vs. Data File

Some LPD servers expect the control file to follow the data file(s); others may expect it to come first. RPM receives files whether the control file comes first or last.

User ID

RPM does not currently require the user to supply an ID.

Client Port and TCP/IP Protocol

Certain clients may not follow the TCP/IP server conventions. By default, RPM relaxes these conventions so a wide variety of systems can print to RPM with little configuration modifications. See "LPD Options Dialog" on page 45 for more information.

Common Printing Problems

To facilitate solving problems, RPM maintains a log and provides a window to view it. The window is open by default; to access it, click the date-stamped tab at the bottom of the RPM window. If it is not open, select *Log* from the *View* menu. This window will contain a number of entries from RPM startup, including version information for RPM and Windows Sockets.

This section refers frequently to *Edit Queues*, which is the *Edit Queues* dialog discussed on page 36. If you are experiencing trouble, first increase the level of detail logged from the Log Options dialog (page 45).

Is your print client connecting to RPM? Whenever RPM is contacted for any reason, a log entry is created similar to "Information: Request from x.x.x.x" where "x.x.x.x" is the IP address of the computer that contacted RPM. If you don't

see an entry like this, your print client is not getting through to the PC. Contact your network administrator for assistance.

Does the print request arrive and sit in the RPM queue without printing? Each queue in RPM has three different "states." Each state describes the current status of the queue. Verify that the queue states are enabled, processing, and not holding. If these states are set, RPM is in normal operating mode and should print each and every document that is received.

The log file says "Failed subcommand" followed by other text. See #2. We have had it reported to us that rebuilding the "/etc/printcap" file under Unix can solve this. Your results may vary.

The log file shows "Error: Unable to print to <printer>." The most likely causes are that the printer or port definition is wrong, or that the print driver can't be loaded. Also, Windows may temporarily be unable to talk to the printer. Check the log, since we continue to add diagnostic capabilities to RPM. For now we suggest going to Edit Queues and running Printer Setup, checking the definition of your printer, and possibly selecting another printer.

Other Printing Problems

Boxes and odd characters appear at the top of the first page, or in the printout. Your print application is sending printer specific data to RPM. Go to the Edit Queues dialog; near the top, you will see three queue types. The first is "Print text, allows font selection, page setup". This is selected by default. You want to use the second type, "Pass data directly to the printer (raw)."

I send PostScript files and they print as PostScript code. See #1.

I've selected "Pass through", but one line appears at the top of each page. Go to Edit Queues, click Queue Setup, then click "Translate LF to CR/LF".

There is no page between print jobs in my raw queue. Go to Edit Queues, click Queue Setup, then click "Add Page Separator".

I do not want a banner page to print. Go to Edit Queues, change the queue type to Text, click Queue Setup, then select the setting "Never print the banner page".

Configuring RPM

This topic provides a summary of the settings you can change in RPM, with pointers to the appropriate dialog *Help* topics.

Hidden

When RPM is minimized, the application icon remains in the task tray, rather than appearing on the taskbar. Simply double-click the task tray icon to re-open RPM. If you want RPM to execute completely hidden, without the task tray icon, simply right click on the RPM icon in the task tray and choose "Hide". You will be asked for confirmation.

Later, if you decide to unhide RPM, import the "unhide.reg" file found in the RPM directory into the Windows registry, then reboot the computer. The next time RPM is started, the task tray will have the RPM icon.

Log File Expiration

RPM creates a new log file every day, in the "Logfiles" folder directly beneath the RPM root. To keep your disk drive from filling, RPM will remove log files older than 7 days. You can change this value in the *RPM Settings* dialog (see page 52).

Log File Timestamp

RPM timestamps each log entry or other event it records.

Log Options

By default, RPM enables network, print, and queue logging, but not high detail. See "Use logging options" on page 16 for more information.

If your RPM installation is running smoothly, you can turn off all the logging options. RPM will do minimal logging but warnings and error messages are always logged.

If you are experiencing problems, we advise you turn on all the logging options until the problem is identified and resolved.

Security

In RPM, security consists of performing basic checks on new requests as advised in the LPD Protocol Specification or commonly implemented in the UNIX LPD server. Some print clients are not able to meet these requirements, however. The LPD Options dialog discussed on page 45 will advise you on how you can tell if you need to adjust these settings.

RPM can also restrict access using Host Access which is discussed on page 41.

Windows Print Manager

In Windows 3.1, a limit in the number of print jobs was enforced by the print manager. No more than 100 print jobs were allowed. The Windows 95, 98 and Millennium Edition print manager does not have this limitation.

RPM allows the user to control how many print jobs are sent from RPM to the Windows Spooler. Normally this limitation is not needed. The current version of RPM, by default, has the upper threshold of 900 and a low threshold of 10 meaning RPM will submit jobs until there are 900 print jobs in the Windows Spooler, and then not submit jobs after that until the number of spooled jobs falls under 10. You can also select the box to ignore these settings and always submit jobs.

Operations Guide

This section goes beyond menus and dialogs. The intent is to show you what happens to your system when RPM runs, what files are created, and how RPM uses them.

Starting RPM

RPM performs a number of functions every time you start it. Several of these functions are mentioned in the topic Installing RPM and they are referred to here as installation functions.

Each time you run RPM, it does the following:

- It executes the installation functions, to make sure RPM is installed properly and ready to run
- It loads a number of settings from the Windows registry
- It attempts to connect to WinSock and register itself as a print server. If it cannot, it displays an error and exits soon after
- It prompts you to create queues if you haven't already (this installation function is executed after the network setup)
- If you have queues, RPM performs a queue cleanup; in case of a system crash, partially transmitted jobs are removed, and jobs that were printing are held so that they can be printed later.
- All windows that were opened when RPM was closed last are restored. If no windows were open, or if this is the first time RPM has been run on your computer, the Queue List and Log windows are opened.
- Finally, RPM checks for jobs ready to print and begins printing any waiting jobs.

Exiting RPM

When you exit RPM, the following actions take place:

- All the current transfers and requests are canceled, and incomplete jobs are removed.
- The network is informed that RPM will no longer be a print server.
- The current size, location, open windows, and show status (icon, normal, etc.) of RPM is saved.
- Finally, the main RPM window is closed.

Files Created by RPM

☞ **Note**: For a discussion of files that are more or less permanent, please see "Files used by RPM" below.

When RPM receives a print request, it receives multiple parts. The first part is called a control file. This control file contains information describing the print request, including the title, the user ID, and instructions for printing it.

The other part(s) of the request are the data file(s) to be printed. Data files are stored in the spool directory, located in the directory where RPM is installed. The data file name is specified by the LPD protocol. Usually it is 'df' followed by a letter, a series of digits, and the name of the host that sent the file. RPM will not overwrite files in the case of duplicate filename; rather it adds a “-1”, “-2”, etc.

The user can specify that control files from the host be saved. In this case, RPM saves the control data in a filename similar to the data file, beginning with a "cf" and using a .txt extension. This file is written to the spool folder, but this location can be customized.

Files Used by RPM

Unlike earlier versions of RPM, the current version of RPM does not create or maintain initialization (.ini) files. Instead RPM uses the Windows registry.

☞ **Note**: We strongly recommend that you do not change the Windows registry without first making a backup of the current registry contents. You may damage your Windows system or make your system unbootable.

Queues

This section is devoted to giving you a better understanding of queues. This is an important topic for two reasons:

1. Queue management is one of the key features that sets RPM apart from other Windows based LPD servers and from hardware print servers
2. Understanding queues is vital to getting the most value from RPM.

Queue Types

The current version of RPM supports three types of queues. The following discussion will help you understand what these types can do for you, and will help you select the right queue for your needs.

Text queues

Description: Text queues offer a wide variety of printing options, including the ability to set fonts, margins, line wrap, maximum page length, and many others.

When to use: If you want RPM to read your text and render it using Windows features, then you should use a Text queue.

Pass-through queues

Description: Pass-through queues send print files directly to the printer, without interpretation. These queues still use the Windows Print Manager as Microsoft recommends.

When to use: If you print files with special control codes, or files meant for a specific printer (including PCL or PostScript files), then you should use a pass-through queue.

Filter queues

Description: Filter queues execute a program on your computer or local network (in the case of file sharing), rather than sending the print job directly to the printer.

When to use: If you have special processing needs which are best met by using another program in conjunction with RPM, then you should use a Filter queue. For instance, you might use a Filter queue in one of the following situations:

- If you print PostScript files, but use a local PostScript rendering tool like GhostScript, as an alternative to a PostScript printer
- If you send word processing files to RPM for local printing; you could use your local word processing program to print the file to your Windows printer
- If you send a file to your computer to perform some function other than printing, for example updating a database or spreadsheet

Queue States

RPM provides several operating modes for queues that control how they accept and process requests. These modes are referred to as states. If it helps, you can think of a state as something that stays the way it is until you change it.

Enabled or Disabled

Description: When a queue is enabled, it accepts requests from remote print clients. When a queue is disabled, RPM will tell the remote print client that the queue is not defined.

When to use: A good way to take a queue off-line is to disable it. For instance, if you are performing a full backup of your disk, or if RPM is spooling to a network drive and that network is currently not available, it may make sense to disable the queue temporarily.

Processing or Suspended

Description: When a queue is suspended, RPM will not check it for ready print jobs. Print requests will remain in the queue until it is resumed. When a queue is processing, RPM checks it for ready print jobs as usual.

When to use: If a printer or filter program is temporarily unavailable, it makes sense to suspend the queue.

☞ **Note**: if you suspend a queue, take care not to let your disk become too full.

Holding or Not Holding

Description: When a queue is holding, all jobs sent to that queue will be held until manually released via the Operator Job Control dialog (see page 46). If a queue is not holding, then jobs are still subject to the restrictions of Enabled or Suspended as discussed above.

When to use: If you want to start jobs printing on a page other than the first, or if you wish to supervise the printing, then consider holding the queue.

Mode	Description	When to Use:
Enabled	Accept incoming requests	Normal mode for operation
Disabled	Deny incoming requests	When performing backups, etc.
Resume	Process incoming data	Normal mode for operation
Suspend	Do not process incoming data	When printer is disabled for a period of time
Not Holding	Send print jobs to printer	Normal mode for operation
Holding	Don't send jobs to printer	Start printing on different page, or control printing

How to Determine the Queue State

The Queue List window

The Queue List window shows the current states for each queue. A checkbox for each state is provided.

The Queue Status window

The Queue Status window shows the current states for each queue.

The Queues menu

If the Queue Status window is open and a queue is selected, then the checkmarks next to Enabled, Processing and Holding in the Queues menu show the current state

The Edit Queue dialog

Select a queue in the “Edit Queues” dialog. The checkboxes in the General Setup group show the current states.

How to Modify the Queue State

The Queue List window

A checkbox for each state is provided and when the box is toggled, the queue state changes immediately.

The Queues menu

If a queue is selected in the Queue Status window, then the Enabled, Processing and Holding items appear, possibly with checkmarks next to them. Select the item to change the setting.

Otherwise, the Enable/Disable, Resume/Suspend and Holding items appear. Select these items to change the setting via the Select Queue dialog (see page 53).

The Edit Queues dialog

In the "General Setup" section of the "Edit Queues" dialog are the controls for the queue states. You can change the queue states for the selected queue by checking and un-checking these boxes.

Host Access

RPM is able to allow or deny access to other computers by using their Internet host name or address, and a set of rules that you supply. These rules and accompanying data are managed by the Host Access dialogs.

Host Access is a tabbed dialog that gives access to three windows:

- Host Rules (see page 41) allows you to enter hostnames and domain name patterns, and access control
- IP Rules (see page 42) allows you to enter IP addresses and patterns, and access control
- Host Names (see page 44) allows you to enter a local host table, which RPM will use to convert IP addresses to host names. Otherwise RPM will use the network to look up a host name.

This topic describes the overall host access security scheme. Also note our recommendation for structuring your rules.

Access

RPM optionally performs an access check for each connection it receives. Connections include print requests, queue status requests, and others. RPM is able to allow or deny access based on the identity of the remote computer. If access is allowed, then the request proceeds without the print client being aware that a check has taken place. If the access is denied, RPM returns the text "Permission denied." then closes the connection, effectively shutting off the request.

Steps RPM uses when checking access

1. **Access checking enabled?** RPM uses a setting labeled "Enable host access checking" to determine whether or not to perform the access check. If this setting is off, RPM does not perform the check. Enable host access checking is off by default, so that you do not have to create access rules to use RPM.
2. **Get the Connection IP Address, Use IP Address rules.** Whenever another program connects to RPM, WinSock provides to RPM the Internet address or IP address of the remote computer. RPM uses this information to search the IP rules you created. If a match is found, RPM uses the access control value (allow or deny) with this connection attempt.
3. **Search for host name.** If no match is found in the IP Address rules, RPM uses the IP address to search for a host name. It first looks in the IP addresses you enter in the Host Names dialog, then in the IP addresses for which WinSock has returned host names in the current RPM session. If RPM does not find the IP address and a matching host name in its records, then it makes a WinSock request to retrieve the host name. You may need to have reverse DNS lookup enabled at your site; contact your network administrator(s) for more information. If WinSock successfully finds a host name for this IP address, then RPM stores that association for later use in this session.
4. **Use Host name rules.** Assuming RPM has found a host name for the print client, it searches the host name rules you entered in the Host Rules dialog. If a match is found, then RPM uses the access control value for this connection request, as with the IP Rules match.
5. **Use Default access rule.** If no match is found in either the IP rules or Host rules, RPM uses the default access rule, either allow or deny, for this connection attempt.

Rules

RPM uses a series of rules that you create to determine whether or not a remote host has access. These rules consist of host names, domain name patterns, and IP addresses.

Rule Searching

RPM uses two sets of rules you create: IP rules and Host rules. In each case, RPM starts with the first rule, and attempts to match each rule in order. RPM then uses the access value of the last rule matched.
For example, let's assume the following set of rules:

Rule	Access	Host name or domain pattern
1	Allow	*.brooksnet.com
2	Deny	*.nicoh.com
3	Allow	*.shel.nicoh.com
4	Allow	africa.nicoh.com

If we print from dave.dev.brooksnet.com, RPM finds a match in Rule 1, but continues to search the rules. No other rules match.

If we print from s-03.shel.nicoh.com, RPM has the following results:

Rule	Match Y/N	Access
1	N	?
2	Y	Deny
3	Y	Allow
4	N	Allow

The result of this rule search is “allow”.

Rule Matching

Both host names and IP addresses come in parts separated by a period ("."); for example, the host name s-03.shel.nicoh.com contains four parts: s-03, shel, nicoh, and com. RPM doesn't care how many parts there are. Similarly, the IP address 199.104.19.3 contains four parts, namely 199, 104, 19, and 3. For the purpose of pattern matching, RPM does not care how many parts there are in the name.

The asterisk character (*) has long been used in the Internet as a wildcard for matching one or more "parts" of names or IP addresses. For instance, The domain pattern '*.brooksnet.com' matches both 'dave.dev.brooksnet.com' and 'hp1.tech.brooksnet.com'. The asterisk matches "dave.dev" in the first example and "hp1.tech" in the second example. Similarly, the IP address pattern '199.104.19.*' matches '199.104.19.3', and the pattern '199.104.*' matches both '199.104.19.7' and '199.104.251.2'.

By now you have probably noticed that host name rules are matched right to left, and IP rules are matched left to right. That is the Internet convention, which RPM uses as well.

Default Access Rule

RPM will use the default access rule if it cannot find a match in the IP rules or host name rules.
IP addresses and host names

Each computer using a TCP/IP network has a unique IP address. These addresses are either assigned individually by your network administrator, or automatically, perhaps with a DHCP server. Each IP address also has a name associated with it. RPM is interested in the fully qualified domain name, that is, the complete path starting with the individual computer and ending with the domain.

Our recommendations for working with host names and IP addresses follow:

- It is much easier to work with host names and domain patterns; unless you are the network administrator, in which case you probably know all the IP addresses and how they are grouped in your organization.
- If you work with host names, then your PC needs to know where the DNS is located. This information will be part of your WinSock setup. DNS stands for Domain Name Service; it is the software and database that turns names to addresses and addresses to names.

Recommendation

We recommend that you use the most general rules first, followed by the more specific rules. In our rule searching example above we included the following:

Rule	Access	Host name or domain pattern
2	Deny	*.nicoh.com
3	Allow	*.shel.nicoh.com
4	Allow	africa.nicoh.com

The most general of these rules is #2; access is denied to each host at nicoh.com. Next we allow all hosts in "shel.nicoh.com", finally, africa.nicoh.com is allowed.

What would have happened if we put Rule #2 after Rule #4? The host s-03.shel.nicoh.com would match *.shel.nicoh.com and the access would be allow. But, later it would match *.nicoh.com and the access would now be deny. That would probably go against the intent.

Styles

Styles provide an easy way to store a queue setup, and conveniently restore it on demand.

History

The concept of styles grew out of a customer requirement. One of our clients told us they need to support four distinct print setups. We suggested that they create four queues, but they had already done so. Their problem was that each of their users had the same need for different print setups, and the job of remote administration to create these queues on the Unix host (4 * number of users) was becoming unmanageable; they preferred to have one queue per user.
Our client requested that we make an easy way to "load" a queue setup on demand. RPM styles grew out of that.

How to Use Styles

1. Create a queue (see page 14), and set it up (page 14) to work well with one of your applications.
2. Create a style (page 12), give it a name that ties in with your applications (e.g. "Transcripts").
3. Copy the queue setup to this style.
4. To use this style, use the task tray menu (page 28) and select *Use Styles* (page 24).

Translations

RPM is able to perform character-by-character translations of your print data, prior to printing. This translation is independent of the queue type; in other words, you can translate text data, pass-through data, and data going to another program.

For more information on the Translation Tables dialog, see page 59; for more information on the Character Translations dialog, see page 32.

☞ **Note**: if you are translating pass through data, we strongly recommend that you test your results. Some printers do not support the complete Windows character set.

What can you do with translations?

Swap line feed and carriage return

Most host applications generate a line feed, or carriage return followed by line feed, for a line terminator. Windows printers generally need both a carriage return and a line feed to signal the end of the line. We have also seen a line feed followed by a carriage return. Your printer may understand this, but the RPM text handling sees an extra blank line.

You can make RPM do the swap by following these steps:

1. Go to the Translation Tables dialog; you can get there from the Options menu by selecting Translations then Tables, or go to the Edit Queues dialog, click Print Data Options, then Edit Translations. The help topic shows you how to create a translation table.
2. Create a table; let's call it "CRLF Swap", without quotes. Click the Contents button to create our translations.
3. Put your cursor on the field Translate from / Enter hexadecimal characters. Click the CR button. Now click the LF button. That's our first translation.
4. Now, click the LF button followed by the CR button. That's the second translation.
5. Click OK in the Character Translations dialog, then OK until all dialog windows are closed.
6. To use this translation: go to the Edit Queues dialog, click Print Data Options, select "CRLF Swap" from the Translation table drop-down list, then select Use Translation.

From now on, any queue that uses this translation will swap the CR and LF characters.

Translate unused ASCII characters to accented characters

For example, you may want to translate certain characters to accented ASCII characters using the following data:

Char	From code (hex)	To code (hex)	New
[	5b	c4	Ä (AE)
{	7b	e4	ä (ae)
\	5c	d6	Ö (OE)
|	7c	f6	ö (oe)
]	5d	dc	Ü (UE)
}	7d	fc	ü (ue)
~	7e	df	ß (sz)
@	40	a7	§ (paragraph)

To perform this translation, create a translation table as described above, you many want to name it "German". Now, go to the Character Translations dialog, put the cursor in the Translate from / Enter hexadecimal characters field, and type the following:
5bc47be45cd67cf65ddc7dfc7edf40a7

☞ **Note**: Those are the to and from hex codes shown. You do not need to click any buttons; RPM automatically enters the translations.

When finished, save the table by clicking OK, then configure your queue to use the "German" translation table, also described above.

Translation tables

RPM stores translation information in named translation tables created by the “Translation Tables” dialog. This dialog allows you to create tables, rename existing tables, and delete tables. You can also edit the contents of the selected table.

Character Translations

RPM can also perform single character translations. You specify a character to translate, what character to translate it to; then RPM will replace all instances of the first character with the second.

RPM does not attempt to do multiple translations. For instance, let's say you want to change all A's to B's, and all B's to C's. RPM will do exactly that; it will not change all A's to C's. In other words, for each character in your print data, RPM performs exactly one translation, and then moves on to the next character in the data.

The “Character Translations” dialog discussed on page 32 allows you to define these translations.

How To

This section is a quick reference, dedicated to helping you use RPM in a hurry. We summarize a variety of topics that are explained in more detail else where in this manual.

Create a New Queue

Choose a name for the queue. This name should be short; eight characters or less is preferable, but RPM supports longer names as well. We recommend that the name be less than 64 characters.

1. Select "New Queue" from the "Queues" menu, or click the New Queue button on the toolbar. For more information on the Create a Queue dialog, see page 34.
2. Type the name for your new queue in the "Create a Queue" dialog, and click OK.
3. RPM now presents the "Edit Queues" dialog, and shows the default settings for your new queue. You can change the queue type, printer, and other settings from this dialog.

☞ **Note**: If you need to change the operating characteristics of a queue, see the next topic.

Change Queue Characteristics

The easiest way to change queue characteristics is to double click on a queue in the Queue Status window. RPM opens the "Edit Queues" dialog for that queue.
You can also change some of the characteristics from the "Queues" menu. If no queue is selected in the Queue Status window, you will be presented with the "Select Queue" dialog. Choose a queue, click OK, and your work is done.

☞ **Note**: You can invoke the "Edit Queues" dialog from the "Queues" menu, the Edit Queue toolbar button, or the queue type button in the Queue List window, which is represented by one of the following images.

Button	Representation
	Text Queue
	Pass-through Queue
	Filter Queue

Delete an Existing Queue

If you have the Queue Status window open:

1. Select a queue in the Queue Status Window.
2. Use the Delete key on the keyboard, or click the Delete button on the toolbar, or select Delete from the Queues menu. See page 24 for more information on the Queues menu.
3. RPM opens the Delete Queue dialog, highlighting the queue you selected. See page 34 for more information on the Delete Queues dialog.
4. If there are no active print jobs, or print requests still in transit, you may click the OK button to remove the queue.

☞ **Note**: RPM will ask you for confirmation before you do this. RPM cannot recover a deleted queue, since it actually removes files and the registry keys.

If you do not have the Queue Status window open:

1. Open the Delete Queue dialog as shown in 2 above.
2. Select a queue in the list of queues. RPM shows you the status of the jobs in that queue, if any.

3. If there are no active print jobs, or print requests still in transit, you may click the OK button to remove the queue.

☞ **Note**: After you click the OK button, RPM checks the status of jobs in the queue again so that it doesn't remove active jobs.

Rename an Existing Queue

When you rename a queue, you change the name by which the queue is known to print clients, and the name used in RPM.

To rename a queue:

1. If the Queue Status window is open, select a queue by highlighting the line.
2. From the Queues menu, select Rename.
3. Select any queue in the Existing queue names list.
4. Type a new queue name in the field marked "New name for queue".
5. Click OK when you are done, or press the Enter key.

☞ **Note**: RPM follows the same rules for queue names described in “Create a New Queue”. There is more detail available for the Rename Queue dialog on page 52.

Report Problems

Our goal at Brooks Internet Software, Inc. is for you to receive the maximum benefit from our software products. Sometimes you may require assistance, even after you have reviewed the documentation. If this is the case, please contact us via email at support@brooksnet.com.

If you are researching a feature and the documentation is unclear, we ask that you explain what it is you are looking for and how the documentation does not seem to help. If you have a suggestion on how it can be improved, please pass it along. Thanks in advance for your insight!

If RPM does not seem to do what you expect, please tell us what you think it should do and why. We try to make the software easy to use.

If RPM experiences a software failure, we ask that you do the following:

- From the *Options* menu, select *Log*.
- Set all the checkboxes on.
- Rerun your print job, or go through whatever steps are required to reproduce the problem
- Email the log file located in the RPM Logfiles folder along with a description of your problem to support@brooksnet.com
- Please be ready to send us further information if it is required to research the problem and find the correct solution.

Determine Current RPM Activity

The easiest way to see what RPM is currently doing is to open the Queue List (see page 18) and Log (see page 20) windows, and watch them as RPM receives and prints incoming data. You can also see a greater level of detail when printing with the Print Status window (see page 22).

The highest level of detail is available in the Log window. By setting logging options (see below), you can see several levels of detail for network activity, commands and events related to queues, and for printing.

Use Logging Options

Select “Log” from the “Options” menu (see page 25) to see the “Log Options” dialog. For more information on what is logged, please see the “Log” window (see page 20).

The Log Options dialog shows three categories of logging - network, print and queue logging. It also shows two levels of detail, on/off and high detail.

When all logging is turned off, RPM logs startup information including the date and time, and RPM version number. Also, any errors that RPM encounters are logged.

What happens when I turn on all logging?
RPM runs a little slower due to the extra logging, and uses more disk space for the log.

Does this make RPM work better? Differently?
Yes and no. "Yes" because if there is a problem, then the detailed log helps our support staff to identify what is happening and either make a recommendation to you, or fix the problem in RPM. "No" is also true, because RPM performs the same actions whether it is logging or not.

Network logging

When network logging is turned on, you will see:

- WinSock status information when RPM starts
- The clients IP address for each request
- Warning messages when print clients violate security settings (see "LPD Security Dialog" on page 45)
- WinSock errors

When high detail for network logging is turned on, you will also see:

- Status for incoming data.
- More detail on the LPD protocol.

Print logging

When print logging is turned on, you will see:

- Messages when queues are deleted or renamed
- When queue cleanup takes place during RPM startup (see page 7)
- Incoming queue requests from remote clients

When high detail for print logging is turned on, you will see settings that RPM determines for you print job such as:

- Font name and size
- Line and page length
- Physical margins and line wrap, etc.

Queue logging

When queue logging in high detail is turned on, you will see:

- Messages at the start and end of print jobs
- A message when a filter command is run
- A message on which printer is used for a queue, whenever that information is accessed (for instance, during printer setup and font setup, as well as when printing)

Save control file from host

This setting, if selected, forces RPM to save the control file, which comes as part of the LPD print request. It will be automatically removed when the print job is complete. Support personnel from Brooks Internet Software, Inc. may ask for a sample of the control file captured with this method.

You can also set the folder where RPM saves the control files. This is done in the Print Data Options dialog which is discussed further on page **Error! Bookmark not defined.**.

User Guide

This section explains the windows, menus, and dialogs used by RPM. For quick help on performing a particular function in RPM, check the “How To” section that starts on page **Error! Bookmark not defined.**.

Main RPM window

The main RPM window resembles a typical Windows application. Starting from the top, it contains a title bar, menus, toolbar, an area containing one or more smaller windows, and a status bar. The smaller windows may have scroll bars.

Title Bar

The title bar is located along the top of a window. It contains the name of the application and the currently displayed window. To move the window, drag the title bar. Note that you can also move dialog boxes by dragging their title bars.

A title bar may contain the following elements:

- Application Control-menu button
- Document Control-menu button
- Maximize button
- Minimize button
- Name of the application
- Title of the active window
- Restore button

Toolbar

The toolbar is displayed across the top of the application window, below the menu bar. The toolbar provides quick mouse access to many tools used in RPM. Furthermore, RPM displays tool tips or "fly by help" when you leave the mouse cursor over a button on the toolbar for more than a few seconds.

To hide or display the Toolbar, choose Toolbar from the View menu (ALT, V, T).

Click	To
	Create a new queue (see page 14)
	Edit an existing queue. RPM displays the Edit Queue dialog box, in which you can locate and edit the desired queue (see page 36)
	Copy the contents of the active window to the clipboard (see page 24)
	Show the Operator Job Control dialog to give fine control over a print job (see page 46)
	Remove a job or queue (see page 14)
	Check all queues for jobs ready to be printed (see page 23)
	Display version and copyright information for your copy of RPM (see page 27)
	Invokes the Brooks License Manager (see page 29). This allows users to view license status and license the software.

	Enable the user to get help on any button on the toolbar, menu item, window or dialog

Status Bar

The status bar is displayed at the bottom of the RPM window. To display or hide the status bar, use the Status Bar command in the View menu.

The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus. This area similarly shows messages that describe the actions of button on the toolbars as you depress them, before releasing them. If after viewing the description of the button on the toolbar command you wish not to execute the command, then release the mouse button while the pointer is off the button on the toolbar.

The right area of the status bar indicates the number of print jobs that Windows currently has queued. This number will increase every time RPM finishes a print job, or when another Windows application prints. Likewise, this number will decrease when the Windows Print Manager completes a print job. You can also resize the RPM window on the right side of the status bar.

Scroll Bars

Scroll bars are displayed at the right and bottom edges of the window. The scroll boxes inside the scroll bars indicate your vertical and horizontal location in the document. You can use the mouse to scroll to other parts of the window.

Queue List window

The Queue List window is a split-pane window allowing users to access queue and job specific operations easily. This window replaces the legacy “Queue Status” window from previous RPM versions.

How To

See Queues in Alphabetical Order

Click the Queues column on the left window pane. This sorts the queues in alphabetical order. An up arrow ▲ indicates the column is sorted alphabetically in ascending order; a down arrow ▼ indicates the row is sorted alphabetical in descending order.

Delete all jobs in a queue

Highlight the queue. On the right pane, select the print job(s) you wish to delete. Now, do one of the following:

- Click the Delete Job button on the toolbar.
- Click the Delete keyboard button
- Choose Delete from the Jobs menu

Select more than one job

Highlight the queue to see a list of jobs currently in the queue. On the right pane, select the print job(s) you wish to delete, hold, or unhold. Press Ctrl+A to select all print jobs or use the Ctrl+Click with the left mouse button to select more than one.

Queue List Left Pane

On the left pane, each queue is listed by name, how many print jobs have been received since the user-interface was opened, and the number of print jobs currently in the queue, such as print jobs that are held or waiting for another task to finish.

Queue List Right Pane

The right pane is also split into two sections. The top of the pane shows the selected queue name, the status, and last operation performed on each queue. It also provides access to easily open the "Edit Queues" dialog (page 36), the "Print Setup" dialog, and modify the queue states (page 8).

The lower portion of the pane includes a scrollable list of print jobs in the currently selected queue. The information is displayed in columns for ease of reading, with one job per line.

From left to right the columns are:

Column	Description
Job #	A sequence number kept internally by RPM for each queue
User ID	The username sent in the control file from the client
Host name	The hostname of the client provided by TCP/IP
Job title	The title of the document provided in the control file by the client
Activity	Can be either Xfer, Print, Wait or Hold
Detail	Display will show Control, Data, Start, Banner or Page n
Percent	Can be anywhere from zero to 100% or Done
Date	The date and time of the data file or the start of printing

Queue Status window

The Queue Status window is a scrolling list that displays the queue names (see page 63), their current states (page 8), the last command received for the queue, and any jobs. RPM updates this display dynamically, without user intervention.

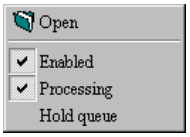
The title of the Queue Status window includes the number of queues currently defined in RPM. Selecting a queue in this window can accelerate virtually every function in RPM that uses a queue name.

☞ **Note**: If you double click in the Queue Status window, RPM opens the Edit Queues dialog and displays the queue you selected.

You can copy the entire contents of the Queue Status window to the clipboard by selecting Copy from the Edit menu (see page 24), or clicking the Copy button on the toolbar.

Following is a sample queue:
Queue lp: Enabled, Processing, Not Holding
Status: Printer 'HP LaserJet 5' is defined.

The first line contains the text "Queue" and the name of the queue, followed by the current states. The second line is the status of the queue; it contains the text "Status:", followed by the command. Whenever RPM receives a request for a queue, this line is updated.



If you right-click on either of these two lines, a context menu will appear. The menu contains four items: Open, Enabled, Processing, Hold queue. The graphic shows a picture of the menu. If you choose Open, you will be taken to the "Edit Queues dialog", found on page 36), where you can modify the settings for the queue. The other three choices change the "Queue States". More information on Queue States can be found on page 8.

Following the command could be one or more jobs, if any jobs are present in the queue. The information is displayed in columns for ease of reading, with one job per line. Similarly, if you right-click on one of the jobs, you will be presented with a context menu, which contains three items. The items are: Open, Holding, and Delete. From this menu, you can open the "Operator Job

Control dialog", found on page 46. You can also delete the job, and hold, or un-hold, the job. There is a check mark next to "Holding" if the job is holding.

From left to right the columns are:

- Sequence number (see the Glossary, which starts on page 63)
- User ID
- Host name
- Job title
- Activity: You will see either "Xfer", "Print", or "Wait".
- Detail: Display will show "Control" when receiving the control file, "Data" when receiving the data file, "Start" when beginning to print, "Banner" when printing the banner, or "Page n" when printing page 'n'.
- Percent, from zero to 100% or "Done"
- Date: The date and time of the data file or the start of printing

Log window

The Log window displays messages logged by RPM. This topic describes both the window and log messages; the topic "Use Logging Options" on page 16 describes how to control what is logged.

The Log window is a scrollable list. One message appears on each line of the window. Each message has a time-stamp, severity, and a message. Some may also contain a source.

Time	Source	Severity	Message
13:58:55.860		Information	Starting RPM 2.3/9x version 2.3.0.29
13:58:55.910		Information	WinSock 1.1 startup is successful
13:58:55.910		Information	WinSock vendor info: Microsoft wsock32.dll, ver2.2, 32bit of Apr 28
13:58:55.910		Information	WinSock status: On Win95.
13:58:55.910		Information	Printer limit: 24
13:58:56.020		Information	Starting queue cleanup
13:58:56.410		Information	Finished queue cleanup
13:58:56.850		Information	Registered to: Test_RPM, Brooks Internet Software, serial number

Note that the title of the Log window is a filename containing the current date. This file is stored in a "logfiles" directory beneath the RPM directory. The file is updated whenever a message is logged. You can copy the entire contents of the Log window to the clipboard by selecting Copy from the Edit menu, or clicking the Copy button on the toolbar.

There are three categories of log messages:

- Information: Provides diagnostic information
- Warning: Denotes something needing your attention.
- Error: Indicates a serious situation.

The following graphic is a segment of an actual log file:

Note the timestamp and the startup information.

The following is a summary of the warning and errors that appear in the Log, with an explanation

Text generated in RPM log	**Description of Problem:**
Cannot load printer driver	The driver for this printer may have become corrupted
Cannot run filter	Windows 95 error running filter program
Can't go to log dir	RPM couldn't find the logfiles directory
Can't go to queue dir	RPM can't find the directory defined for a queue
Can't start document printing	Windows returned an error when starting a text print job
Could not locate queue	RPM can't find the queue you are renaming

Creating directory	RPM can't create the root directory
Creating file	RPM can't create a data file
Creating queue dir	RPM can't create a queue directory
Error accepting new connection	WinSock returned an error on a new request
Error on queue 'queue' directory 'dir'	RPM can't find a queue directory
Error running	Windows returned an error when executing a filter command line
Error writing data file	File error writing data received from remote host
Failed command	RPM has detected an apparent LPD protocol error
Failed subcommand	RPM has detected an apparent LPD protocol error
Failed to change to drive	RPM can't change to another drive
Failed to create print status window	RPM can't create the Print Status window
Failed to create queue status window	RPM can't create the Queue Status window
Opening append file	RPM couldn't open the file specified for appending
Opening file for copy	File error on filter
Opening insert file	RPM couldn't open the file specified for inserting
Port is not defined by Windows	The printer port returned by Windows is no longer defined
Print error ending document	Windows printing error
Print error ending page	Windows printing error
Printer is not defined by Windows	The configured printer is no longer defined
Printing error	Windows has returned an error status on finishing a page
Printing-data file	RPM can't read the data file for a text print job
Printing-data file is empty	the data file for a print job is empty
Printing-reading control file	RPM can't read the control file which defines a print job
Problem resolving IP address	Couldn't initiate call to WinSock to resolve IP address
Queue not defined for protocol	Go to Server Protocols and select a queue for this protocol
Read error on	Unexpected WinSock error getting data from remote host
ResolveHost failed host name lookup	Unexpected error; contact Brooks support
Spool error	Windows printing error on pass-through print job
Spooling file	Windows 95 printing error on pass-through print job
Unable to interpret extra text	RPM has detected an apparent LPD protocol error
Unable to open file	RPM can't open a data file for a print job
Unable to open printer	Windows 95 returned an error when printing a raw print job
Unable to print to	RPM can't print to this printer
Unable to spool file	Windows returned an error when starting a pass-through print job
Windows has no default printer	You need to use the Windows Setup to configure a default printer
WinSock error resolving IP address	The DNS server address is set properly in Windows Sockets
There is one Abort message:	
Can't start WinSock	RPM cannot connect to WinSock

Many of these messages are self-explanatory, and some may require assistance from your local system administrator or networking staff.

Resource Status Window

The *Resource Status* view shows a list of all resources that various queues are configured output data to. This includes all local and network printers and folders as well as filter programs that RPM may execute. This window shows a grid view similar to spreadsheet applications and has seven columns. The following list provides an explanation of each column.

Resource Name

The *Resource Name* column displays the name of a printer with text or raw type queues. With filter queues, this column may display the filter program or, if no program is in use, the function RPM is using such as "copy".

Port

The *Port* column is filled in with the Windows port that this printer is configured for. If the resource is not a printer, this column is left blank.

Driver

The *Driver* column displays further information about the printer resource. It is blank when the resource is something other than a printer.

Status

The *Status* column displays an icon representing the current status of the resource. The icons and their respective meaning are shown in the table.

Icon	Representation
	The status is unknown, meaning it has yet to be tested
	The resource has an error that was detected
	The resource is busy or is currently being executed
	The resource is up and ready to receive data

Printed

The *# printed* column shows the number of print jobs processed by this resource since the user interface was opened. This information is reset when the RPM window is closed or the computer is restarted.

Waiting

The *# waiting* column shows the number of print documents waiting to be printed. These are documents that have been processed by RPM and sent to the Resource Scheduler but have not yet completed. This information is reset when the RPM window is closed or the computer is restarted.

Queues

The *# queues* column indicates the number of RPM queues that are submitting print data to the resource.

Print Status window

The Print Status shows a higher level of detail on print jobs than you can find in the other status windows, including:

- The queue name
- The sequence number (next to the text "Item")
- The user ID
- The host name
- The title
- The printer or the path to the filter program
- Detail, which includes the current page number, or the banner
- Percent
- Date, the date and time at the start of the print job

You can copy the entire contents of the Print Status window to the clipboard by selecting Copy from the Edit menu, or clicking the Copy button on the toolbar.

Menus

File Menu

The File menu offers the following commands:

Command	Action
New queue	Creates a new queue.
Print Jobs	Checks each job to see if it is ready to print.
Export	Exports existing queue configuration to a file.
Import	Imports a previously exported configuration from a file.
Exit	Exits RPM.

New Queue

Use this command to create a new queue in RPM.

Shortcuts

Toolbar:
Keys: CTRL+N

Print Jobs

Use this command to print any ready jobs. Normally RPM does this automatically; if you have made changes to existing jobs that RPM is not aware of, then use this function.

Shortcuts

Toolbar:
Keys: CTRL+P

Export

The export function allows you to save the existing queue configuration to a file. The file is saved as a .reg file that allows you to import the configuration into any other computer. This function can be used for backup purposes, moving configuration from one computer to another, or simply replicating queue configuration on each RPM installation.

Import

The import function allows a previously exported configuration to be imported into the Windows registry. RPM will update the display after the registry import is completed.

Exit

Use this command to end your RPM session. You can also use the Close command on the RPM Control menu. RPM cancels current transactions, but does not immediately abort a printing job.

Shortcuts

Mouse: Double-click the Control menu button.
Click the Close button on the far right side of the RPM title bar.
Keys: ALT+F4

For more information, see Exiting RPM on page 7.

Edit menu

The Edit menu offers the following commands:

Command	Action
Copy	Copies the contents of the active RPM window to the clipboard.
Delete	Deletes a job or queue from your RPM configuration

Copy

Use the Copy command to copy the contents of the active RPM window to the Windows Clipboard. Copying data to the clipboard replaces the contents previously stored there.

Shortcuts

Toolbar:
Keys: CTRL+C

Delete

Use this command to remove a queue. Use the Operator Job Control command to delete a job. See page 46 for more information.

RPM initially presents the Delete Queue dialog (see page 34), then provides you the opportunity to remove a queue. If you first selected a queue in the Queue Status (see page 9) or Queue List (see page 18) windows, RPM highlights that queue in the Delete Queue dialog.

Shortcuts

Toolbar:
Keys: Delete

Queues menu

The Queues menu offers the following commands:

Command	Action
New queue	Add a queue to your RPM configuration (see page 14)
Edit queues	Change the settings for a queue (see page 14)
Styles	Invokes the Styles menu (see below)
Operator	Operator Job Control interface for selected job (see page 46)
Delete	Delete a queue (see page 14)
Rename	Change the name of a queue (see page 14)
Enable/Disable	Enable or disable a queue (see page 8)
Resume/Suspend	Resume or suspend processing for a queue (see page 9)
Holding	Specifies whether or not a queue or job is holding (see page 9)

The Styles menu offers the following commands:

Command	Action
Manage Styles	Create styles and use queue settings in style (see page 54)
Use Styles	Copy style settings to a queue (see page 61)

☞ **Note**: These options are discussed further on the pages listed.

Jobs menu

The functions in the Jobs menu are available when viewing the Queue List window only. From the Jobs menu, you can perform job specific functions.

The Jobs menu contains the following commands:

Command	**Action**
Open	Access the Operator Job Control dialog (see page 46)
Holding	Toggles the job between holding and not holding job states.
Delete	Deletes the currently selected job.

Options menu

The Options menu offers the following commands:

Command	**Action**
Settings	Modify miscellaneous settings for RPM (see page 52)
Log	Modify logging options, levels of detail (see page 45)
Host Access	Manage settings to allow and restrict access from other computers (see page 10)
Translations	Invokes the Translations menu (see below)
LPD Options	Modify LPD protocol settings for RPM (see page 45)
Protocols	Manage protocol ports and settings (see page 53)
Printer Limits	Review or change printer limits

The Translations menu offers the following commands:

Command	**Action**
Tables	Create named translation tables (see page 59)
Contents	Edit the contents of a translation table (see page 32)

☞ **Note**: These options are discussed further. Consult the listed pages.

View menu

The View menu offers the following commands:

Command	**Action**
Toolbar	Shows or hides the toolbar (see page 17)
Status Bar	Shows or hides the status bar (see page 18)
Workbook	Control whether RPM shows pages as a workbook (see page 17)
Queue List	Shows or hides the Queue List window (see page 18)
Queue status	Shows or hides the Queue status window (see page 19)
Print status	Shows or hides the Print status window (see page 22)
Log	Shows or hides the Log window (see page 20)

Toolbar

Use this command to display and hide the Toolbar, which includes buttons for some of the most common commands in RPM. A check mark appears next to the menu item when the Toolbar is displayed.
See page 17 for help on using the toolbar.

Status Bar

Use this command to display and hide the Status Bar. A check mark appears next to the menu item when the Status Bar is displayed. See page 18 for help on using the status bar.

Workbook

RPM arranges windows as if they were separate pages, with a row of tabs at the bottom of the RPM window. This design resembles a workbook.
You can return RPM to the traditional multiple window arrangement by selecting View/Workbook, then select it again to return to the workbook.

Queue Status

Use this command to display and hide the Queue status window, which shows the names and status of the queues currently defined in RPM, as well as status of any jobs. A check mark appears next to the menu item when the Queue status window is displayed.
See page 9 for help on using the Queue status window.

Print Status

Use this command to display and hide the Print status window, which shows detailed status information for the current or most recent print job. A check mark appears next to the menu item when the Print status window is displayed.
See page 22 for help on using the Print status window.

Log

Use this command to display and hide the Log window. A check mark appears next to the menu item when the Log window is displayed.

See page 20 for help on using the Log window.

Window menu

The Window menu offers the following commands, which enable you to arrange multiple views of multiple documents in the application window:

Command	Action
Cascade	Arranges windows in an overlapped fashion.
Tile	Arranges windows in non-overlapped tiles.
Arrange Icons	Arranges icons of closed windows.
Window 1, 2, ...	Goes to specified window.

Cascade

Use the Cascade command to arrange multiple opened windows in an overlapped fashion.

Tile

Use this command to arrange multiple opened windows in a non-overlapped fashion.
Arrange Icons Use this command to arrange the icons for minimized windows at the bottom of the main window. If there is an open window at the bottom of the main window, then some or all of the icons may not be visible because they will be underneath this window.

Window 1, 2...

RPM displays a list of currently open windows at the bottom of the Window menu. A check mark appears in front of the document name of the active window. Choose an item from this list to make its window active.

Help menu

The Help menu offers the following commands, which provide you assistance with this application:

Command	Action
Help Topics	Offers you an index to topics on which you can get help.

Using Help	Provides general instructions on using help.
License...	Opens the BISI License Manager. (See page 27)
About RPM	Displays the exact version of RPM.

Help Topics

Use this command to display the opening screen of Help. From the opening screen, you can jump to step-by-step instructions for using RPM and various types of reference information.
Once you open Help, you can click the Contents button whenever you want to return to the opening screen.

Using Help

Use this command for instructions about using Help.

License...

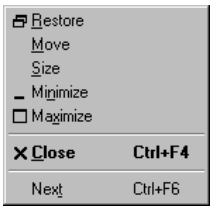
When you select "License…" from the help menu, RPM runs the "BISI License Manager" program (BLicMgr.exe). This allows you to check the trial status, register RPM, contact the publisher and/or reseller via their website or sending e-mail, and print your RPM license if, in fact, RPM is licensed.

About RPM

This command displays the "About" dialog. See page 32 for more information.

Control menu

The "Control" menu is located at the upper left corner of the RPM main window, Queue Status, Log, or Print Status window, and some of the other dialog boxes.



The Control menu offers some or all of the following commands:

Command	**Action**
Restore	Returns a window to an earlier size and position, after minimizing or maximizing
Move	Move the active window or dialog box
Size	Resize the active window
Minimize	Reduces the current window to an icon
Maximize	Increases the size of the current window to fill the display
Close	Closes the active window or dialog box
Next	Toggles open windows. You open the queue status, log, and print status

Restore

Use this command to return the active window to its size and position before you chose the Maximize or Minimize command.

Move

Use this command to display a four-headed arrow so you can move the active window or dialog box with the arrow keys.

Note: This command is unavailable if you maximize the window. You can also move the window by dragging the Title Bar.

Shortcut

Mouse: Drag the title bar at the top of the window

Size

Use this command to display a four-headed arrow so you can size the active window with the arrow keys.

After the pointer changes to the four-headed arrow

1. Press one of the DIRECTION keys (left, right, up, or down arrow key) to move the pointer to the border you want to move.
2. Press a DIRECTION key to move the border.
3. Press ENTER when the window is the size you want.

Note: This command is unavailable if you maximize the window.

Shortcut

Mouse: Drag the size bars at the corners or edges of the window.

Minimize

Use this command to reduce the RPM window to an icon.

Shortcuts

Mouse: Click the minimize button on the title bar.
Keys: ALT+F9

Maximize

Use this command to enlarge the active window to fill the available space.

Shortcuts

Mouse: Click the maximize button on the title bar; or double-click the title bar.
Keys: CTRL+F10 enlarges a document window.

Close

Use the Close command to close the active window or dialog box.
Double-clicking a Control-menu box is the same as choosing the Close command.

Shortcuts

Mouse: Click the close button on the title bar.
Keys: CTRL+F4 closes a window within RPM
ALT+F4 exits RPM or closes a dialog box

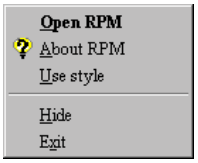
Next

Use the Next command to toggle between open windows in RPM. Possible open windows could be the Queue Status, Log, and Print Status windows.

Shortcuts

Keys: CTRL+F6 displays the next open window.

Task Tray Menu



RPM supports a Windows task tray icon. When you place the mouse cursor over the task tray icon, RPM shows the name of the product or the status, if jobs have been received or printed. If you minimize RPM, it will hide itself.

You can restore RPM by double clicking the task tray icon. If you right click the task tray icon, RPM opens a menu. This menu allows you to open the program window, see the “About” dialog, use a style, hide, or exit the program. "Use style" will be unavailable when no styles have been defined.

Brooks License Manager

The *Brooks License Manager* provides license management functions for software developed by Brooks Internet Software, Inc. The license management software is provided with each application obtained from Brooks. When the software is installed, a 21-day trial period is initialized. Accompanying each purchase, instructions on unlocking the software are provided. The Brooks License Manager is used for monitoring and unlocking the application.

The Brooks License Manager software is used to perform the following functions:

1. During a trial period, users can determine the number of days remaining before the trial period ends.
2. View the installed modules, if any, and provide a way to license them.
3. After the software is licensed, users may view and print the license information.
4. Users can also view information about Brooks or the reseller, which includes contact information.
5. Version number and copyright information for the license manager can be viewed in the About tab.

License Status Tab

During the trial period, this tab shows information about the license including the product, product version, serial number, and number of days remaining until the trial license expires.

After the application is licensed through the License Wizard, information about the license is shown. This includes the registered username and company, product and version, licensed date, when the support contract expires, and the serial number.

Print License

Pressing this button allows license manager to print the license information to a printer. License manager can print to any available Windows printer, just as other applications do. When pressing this button, the standard Print Setup dialog is displayed allowing the user to select the printer and change the properties.

☞ **Note**: This button is available only after the software has been unlocked.

Copy

This button is used to copy the license information to the clipboard. Users can then paste the information into another application for storing license information on disk, rather than printing it.

☞ **Note**: This button is available only after the software has been unlocked.

License

Pressing this button invokes the Application Unlock Wizard, which allows the license to be updated. After the initial licensing, this is used to update the support expiration date or change the registered username.

Module Status Tab

This tab contains a grid that displays modules that have been installed in easy-to-read columns. This list shows the modules, the license status of the module, the quantity if applicable and a description of the module.

License Module

This button allows the user to unlock or update modules that are currently installed. The Application Unlock Wizard must be completed prior to unlocking installed modules.

Publisher Tab

This tab provides information about the publisher of the software. Included here is the address, city, state, postal code, and country. Phone and fax numbers are listed and links to contact the publisher via email or the website are also provided.

Reseller Tab

This tab provides information about the reseller of the software. Included here is the address, city, state, postal code, and country. Phone and fax numbers are listed and links to contact the publisher via email or the website are also provided if available.

☞ **Note**: This tab is available when downloading the software from some resellers.

About Tab

This tab provides information about the Brooks License Manager. Version and copyright information are displayed and links are provided to email and visit the publisher's website.

License Wizard

The *Application Unlock Wizard* guides you through the steps of unlocking or updating the software license. Each step is simple to follow; users provide information and the software is unlocked if all information is entered correctly.

This wizard is accessed from the License Status tab of the Brooks License Manager application.

Collecting Information

This step is where you enter the user and company that the software is licensed to. A unique username is required for each license. If the username is not unique, the web unlock function will notify you.

Determining Unlock Method

The second step in unlocking the software is to determine whether to unlock using an unlock key or an order number and authentication code.

☞ **Note**: A connection to the Internet is required when unlocking using the order number and authentication code.

Entering Support Expiration

This step is required only when unlocking using an unlock key. This date is required to know when the support contract expires. This date is typically one year to the date of purchase; it is shown on the invoice or can be obtained from Brooks. If the support date is entered incorrectly, the unlock request will be unsuccessful. This date is automatically transmitted when unlocking using an order number and authentication code.

Edit…

Pressing this button displays a calendar which allows you to select the correct date that support expires. If you are unsure of the correct date, consult your sales receipt/invoice for the purchase date.

Complete the Unlock Process

This step is the final step in unlocking the software. It is different depending on options chosen in previous steps, most notably the step "Determining Unlock Method".

Quantity

Certain modules may require that a quantity be unlocked, such as the *RPM Printers* module. If you have purchased an updated number of printers, enter the quantity here.

Unlock using an order number and authentication code

Enter the order number and authentication code in the corresponding entry. The sales receipt or invoice number is referred to as the order number. There are also 3 choices corresponding to the automated way you prefer to unlock the software.

When you select *Web Unlock*, License Manager will attempt to connect directly to our web server and transmit the encrypted license information to our server.

When you select either of the email options, your default mail client is opened and populated with the information needed by Brooks to provide and unlock key. Verify that the mail format is plain text so the server can correctly provide an unlock key. This process is automated and can be used outside normal business hours.

Unlock using an unlock key

Enter the appropriate unlock key and the software will be unlocked. This key is provided by Brooks either automatically from this wizard or by contacting Brooks directly. Contact information is provided in the main License Manager window.

Web Unlock

Web Unlock requires the license manager to connect directly to our web server over the Internet. License manager provides the ability to specify alternate proxy server settings. The first time license manager is accessed, it reads the proxy server settings directly from Internet Explorer settings and populates the fields with this configuration.

Users have the ability to specify alternate proxy server settings if Internet Explorer is not installed or not currently configured.

Use HTTP proxy simply tells license manager that a proxy server is in use. The *Address* and *Port* entries then become available and you can configure proxy settings here.

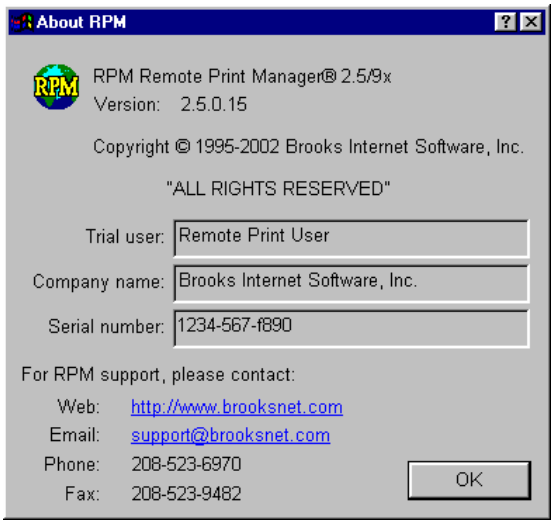
Reset causes license manager to synchronize with the current Internet Explorer proxy server settings, if available.

☞ **Note**: Proxy Server settings can be obtained from your network administrator.

Dialogs

The following pages describe RPM dialogs. In most cases we include shortcuts that answer "how to" questions.

About dialog

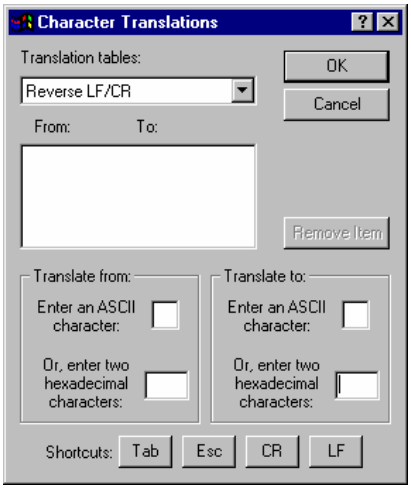


The *About* dialog is accessed by selecting *About RPM…* from the *Help* menu or by clicking on the *About* button on the toolbar. Use this command to display the copyright notice and version number of your copy of RPM.

This dialog box shows the user name and serial number for this copy of RPM. Both are contained in read only edit controls, which allows you to select and copy them to the Windows clipboard. You will also find the contact information such as the email address for technical support and phone and fax numbers for Brooks Internet Software, Inc.

☞ **Note**: Before you submit a problem report, please see “Reporting Problems” on page 15.

Character Translations dialog



The *Character Translations* dialog allows you to create and edit character translations, for a single translation table at a time. See page 12 for more information on RPM character translations.

Shortcuts

Translating Typable Characters

In the *Translate from*, enter an ASCII character you wish to translate. At this point, the cursor moves automatically to the *Translate to* field. Enter an ASCII character here also. The translation is added or updated and the dialog is reset, ready to add another translation.

Translating Characters Using Hexadecimal Characters

In the *Translate from*, enter a 2-digit hexadecimal number for the character you wish to translate in the appropriate field. The cursor will automatically move to the *Translate to* field. Now, enter the 2-digit hexadecimal number that you want the character to be. When finished, the translation is added and the dialog is reset.

RPM automatically adds the translation to the table and moves the cursor back to the “Translate from” field. An ASCII table is included in this manual for convenience and can be found on page 64.

☞ **Note**: RPM attempts to make the character entry easy. You simply type the ASCII character or two-digit hexadecimal character. RPM inserts or updates the translation. It also moves between the T*ranslate from* and T*ranslate to* fields automatically after entering the data.

Changing a Translation

Do one of the following:

- Re-enter the translation as described above using the same "from" character and the desired "to" character.
- Select the translation from the list and enter a new "to" character.

Removing a Translation

Select the translation in the *From/To* list, and then click the button labeled *Remove*.

Translation tables

This drop list contains the names of currently defined translation tables. The contents of the selected table are shown in the *From/To* list.

You can edit another translation table by selecting it in the *Translation tables* drop-down list. If any changes have been made to the current table, RPM will save those changes.

From/To

This list contains the current translations. RPM attempts to show each character as a printable value (e.g., 'a'), or symbolic value (e.g., 'ESC'); otherwise it will use the hexadecimal value.

Select a translation in this list to edit or remove it.

Translate from

The *Translate from* area of the dialog contains two fields, one for entering an ASCII character, the other for entering two hexadecimal characters.

If you put the cursor in the ASCII field and enter a character, RPM accepts that character and moves the cursor to the ASCII field in the *Translate to* area. If you put the cursor in the hexadecimal field and enter two hex characters, RPM accepts them as a single character, and moves the cursor to the hexadecimal field in the *Translate to* area.

Translate to

The *Translate to* area of the dialog contains two fields, one for entering an ASCII character, the other for entering two hexadecimal characters.

If you put the cursor in the ASCII field and enter a character, RPM accepts that character and adds or updates the translation. If you put the cursor in the hexadecimal field and enter two hex characters, RPM accepts that as a single character, and adds or updates the translation

☞ **Note**: If you enter anything but hexadecimal characters in the Translate from or to, that is '0' through '9' and 'A' through 'F', RPM beeps and refuses the character.

Shortcuts

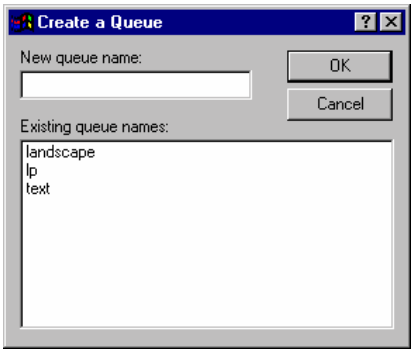
These buttons are shortcuts to entering a tab, escape character, carriage return, line feed or form feed.

If the cursor is in the *Translate from* area, the appropriate hex codes are inserted and the cursor is automatically moved to the *Translate to* area. If the cursor is in the *Translate to* area, the appropriate translation is added to the list.

Remove

Click this button to remove the currently selected translation. This button will be disabled if a translation is not currently highlighted in the *From/To* list.

Create a Queue dialog



Use the *Create a Queue* dialog to create queues. After you have entered the queue name and clicked the OK button, RPM opens the *Edit Queues* dialog (see page 36) so queue characteristics can be configured.

New queue name

Enter a name for the queue. RPM allows queue names to contain alphabetic characters 'A' through 'Z' (upper and lower case), digits '0' through '9', dash ('-') and underscore ('_'). White space characters such as space or tab are not allowed in a queue name.

Existing queue names

RPM displays the names of existing queues. As you type, RPM uses your input to search the existing queue names. If it finds a match, it selects the queue from this list.

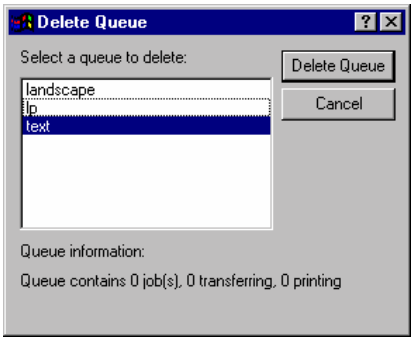
For instance, if you type the letter 'l' then the first queue in our example, 'lp', would have been highlighted. RPM does this to help the user avoid entering a name for a queue that is already in use.

Continuing this example, if you typed the letter 'l' but followed it with a letter other than 'p', RPM would realize that 'lp' is not the intended queue name and will deselect that queue in the list.

OK

When you click OK, RPM checks to make sure the queue name entered is not already defined. If not, RPM creates the new queue and displays the *Edit Queue* dialog. If it is already used, an error is displayed and the queue is not created.

Delete Queue dialog



The *Delete Queue* dialog allows you to remove a queue, all the jobs in the queue and the queue configuration information. See the section Delete an Existing Queue on page 14 for more information.

How To

Delete a Queue

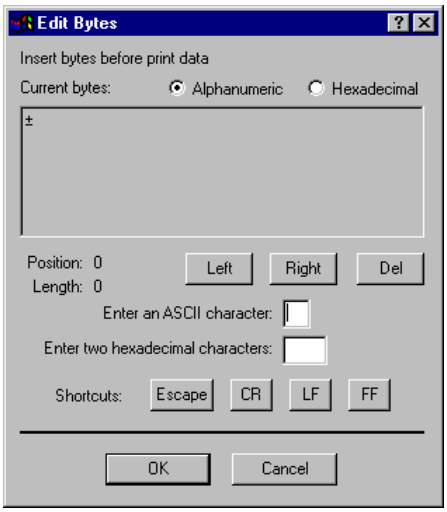
1. From the *Queues* menu, choose *Delete*.
2. Highlight the queue you wish to delete.
3. Press the *Delete Queue* button.

The queue is deleted and the dialog is dismissed. Note that you can select only a single queue to delete each time the dialog is invoked. If any jobs currently in the queue are active, that is printing or being transferred, RPM will not allow the queue to be deleted.

☞ **Note**: RPM does not provide an “Undo” operation. Once the queue is deleted, it cannot be retrieved.

Edit Bytes dialog

This dialog will assist you in creating a custom byte sequence. RPM uses this dialog to prepare bytes to insert before a print job, append to a print job, and as a page separator.



How to

Enter a typable character

In the *Current bytes* field, RPM will display a position marker that looks like a plus sign over a minus sign (±). The position marker is shown in the dialog.

Move the cursor to the field labeled *Enter an ASCII character*, and type a character. The character you type appears where the marker was, and the marker moves right.

Enter a character using hex codes

Locate the position marker in the *Current bytes* field. Now move the cursor to the field labeled *Enter two hexadecimal characters* and type your 2-digit hexadecimal number. The position marker moves right and character appears where it was.

Move the insert point left or right

The Left and Right buttons move the position marker left and right, respectively.

Remove a character

Move the position marker to the left of the character you wish to delete. Click the *Del* button. The position marker keeps its position, the deleted character disappears, and the remaining characters to the right of the deleted character move left.

Enter special characters

Position the cursor to the left of where you want the character to go; click the *Escape*, *CR*, or *LF* button. These buttons are for the Escape key on the keyboard, a carriage return (Enter on the keyboard) and line feed, which tells the printer to start on the next line.

Alphanumeric & Hexadecimal

These settings control whether RPM tries to show characters by their symbolic value or the hexadecimal value.

Current bytes

This field shows you the current byte sequence in hexadecimal notation. RPM supplies a position marker that should resemble an arrow pointing down to a line. When RPM inserts a byte into the current bytes, it places it to the left of the position marker.

☞ **Note**: You cannot change the bytes with this field; it is for display purposes only.

Position and Length

The *Position* field shows the location of the position marker, after which the next byte will be inserted. The *Length* field shows the length in bytes of the current bytes.

Left, Right, & Del

The *Left* button moves the position marker one byte to the left. If the position marker is at the beginning of the current bytes, the Left button has no effect.

The *Right* button moves the position marker one byte to the Right. If the position marker is at the end of the current bytes, the Right button has no effect.

The *Del* button deletes the byte to the right of the position marker. If the position marker is at the end of the current bytes, the Del button has no effect.

Enter an ASCII character

Enter any character that you can normally type into a text field. RPM empties this field, inserts the byte in the current byte just after the position marker, displays it in the *Current Bytes* field, and adds one to the position and length fields.

Enter two hexadecimal characters

Use this field to enter bytes. The characters must be hexadecimal, either digits 0 through 9 or letters A through F. You can enter lower case a through f if you wish, and RPM will translate.

If you enter anything else, RPM will display a dialog showing you which characters to enter, and will remove any characters in this field. The current bytes are unaffected.

Once you have entered two hexadecimal bytes, RPM empties this field, inserts the byte in the current byte just after the position marker, displays it in the *Current Bytes* field, and adds one to the position and length fields.

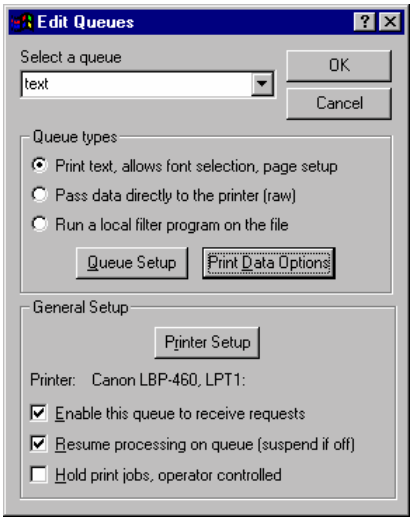
Shortcuts

RPM inserts an escape character (ESC), carriage return (CR), line feed (LF) or form feed (FF) character as if you had entered the bytes manually.

Edit Queues dialog

Use the *Edit Queue* dialog to change queue settings. Several other dialogs are invoked from this dialog, including *Print Data Options* (page 48), *Printer Setup* (page 51), *Text Setup* (page 56), *Pass-through Setup* (page 47), and *Filter Setup* (page 38).

☞ **Note**: If any of the above dialogs are opened and changes are made, those changes are saved when that dialog is closed, not when the *Edit Queues* dialog is closed.



How to

Select a printer

Click the Printer Setup button. This presents the standard Windows *Print Setup* dialog. Select a printer and any other options and click OK. RPM saves the printer information and optional settings for all future printing to the selected queue.

Change queue settings

Select the appropriate queue type from the *Queue types* group. Then click the *Queue Setup* button.

Get advanced features

If you would like more advanced features of RPM such as transforming data, inserting or appending bytes and character translations, click the *Print Data Options* button.

Select a queue

This drop list contains the names of all configured queues. If RPM can make an intelligent guess about which queue you want to edit, it will display it here, otherwise, select it from the list.

Use the drop list to select a different queue to edit. If you edit a queue with this dialog, and then select another queue with this drop-down list, all settings for the first queue are automatically saved.

Queue types

RPM supports several types of queues: Text, Pass-through, and Filter queues. Please see page 8 for a discussion of queue types.

Queue Setup

Click the *Queue setup* button to get a setup dialog appropriate for the current queue type.

Print Data Options

This button invokes the *Print Data Options* dialog, which is discussed on page 48. These data options affect how RPM modifies the data before printing.

Printer Setup

RPM offers the standard Windows *Print Setup* dialog to allow the user to select printer settings for each queue. RPM supports any options provided by the print driver. RPM stores these options; whenever a print job is received in this queue, the options you select are used.

For instance, if you selected landscape printing rather than portrait in the *Print Setup* dialog, all print jobs sent to this queue will come out in landscape. Even when you shut down RPM or restart your computer, jobs from this queue will still be printed in landscape orientation.

☞ **Note**: The print setup is only used for a Text type queue in RPM. If you are using a “Pass-through” (raw) type queue, these options have no effect.

Printer

The name of the Windows printer, filter command, or destination folder is shown here. When a queue is first created, the Windows default printer is used. Use the *Printer Setup* button to select a different printer or change the queue type to Filter and use the Queue Setup dialog to select a filter program.

☞ **Note**: When a filter queue is selected, the *Print Setup* button is disabled. If your data should be printed, use a raw or a text type queue.

Enable this Queue to Receive Requests

Queues can be enabled or disabled. See Enable/Disable on page 8 for further information.

Suspend Printing on Queue

Queues can be suspended or resumed. Please Resume/Suspend on page 9 for more information.

Hold print jobs, operator controlled

Jobs can be held until manually released. If the queue is set to *Hold*, then all jobs sent to it will be automatically held, and vice versa. See *Operator Job Control* on page 46 for more information.

☞ **Note**: Queue states are discussed in greater detail on page 8. The default for incoming print data to be processed is to enable the queue and leave the suspend and hold settings turned off.

Filter Setup dialog

Use this dialog to edit settings for Filter queues. See page 8 for more information.

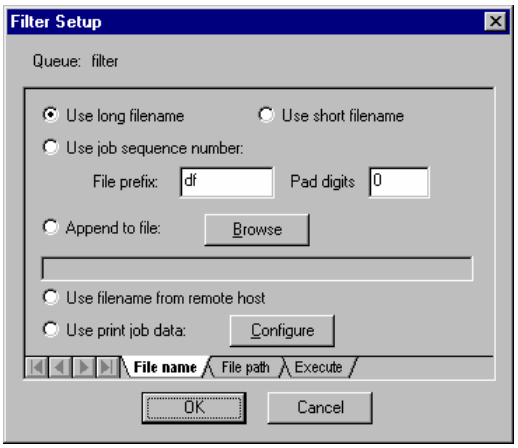
How do I get RPM to leave the data file in a directory on my computer, without doing anything else to it?

1. Specify an extension for the file, e.g. TXT or PS.
2. Specify an existing directory to copy the files to.
3. Leave the command line empty.

Filename tab

Use long filename

RPM creates a filename for each incoming request. Click this radio button if you would like to use RPM's default filename. The long filename begins with 'dfA,' followed by a sequence number, ending with the DNS hostname of the sending side, if available.



Use short filename

In certain instances, you may want to provide your filter program with a short filename. Clicking this button forces RPM to shorten the default filename, discussed above, into a short filename. Short filenames use the DOS 8.3 naming convention where you have an 8-letter filename and a 3-letter extension.

Use job sequence number

Setting this option allows you to create your own filename for the filter. An example of a customized filename is df0001.txt. In this example, the filter filename is "df", there are 4 pad digits and the file extension is txt (this is set under the "File path" tab discussed below).

Use filename from remote host

The filename from the remote host may be used to identify the file. This name is sent over in the control file and can only be customized on the sending side.

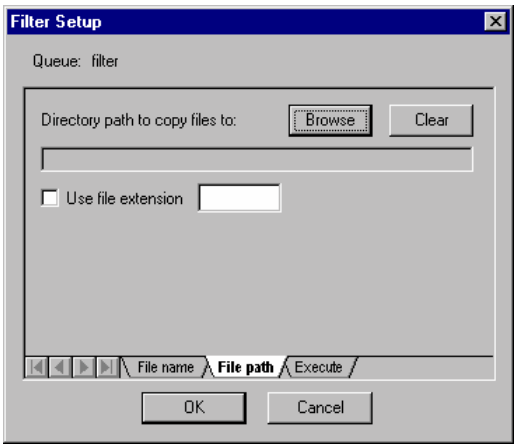
Append to file

By selecting this option, you can append the contents of the incoming data file to an existing file. Click the browse button to select the file to append to. If the file does not already exist, RPM will create a new file.

Use Print Job Data

This allows you to use information in the control file to save your data. You can use such things as user, remote host, date and time, etc. for the name of the file. See the Use Job Data dialog on page 60 for more information.

Filepath tab



Directory path to copy files to

RPM provides the ability to copy incoming data to a specified folder. This may be useful when archiving the data or when a custom application is configured to "watch" a specific location for new files. Use the *Browse* button to locate a folder.

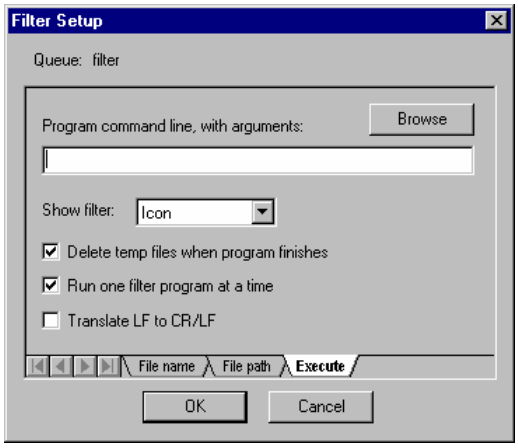
Use File Extension

Your filter program may expect a certain file extension. To use the file extension, place a check in this box and specify the extension.

☞ **Note**: RPM is looking for the characters that follow the period (".") and will remove the period and anything that comes before it. For instance, *.txt becomes txt.

If the filter is in the Windows directory or system directory, RPM uses the TEMP or TMP environment variables for the folder. That way, critical system files are not affected.

Execute Tab



Program command line, with arguments

Click the "Browse" button to locate the program you wish RPM to open when print data is received. If the entire path is not specified, verify that the path to your executable can be found in the DOS PATH or RPM may suspend the queue.

To specify the appropriate command line arguments, first consult the documentation for your filter program.

How RPM handles the filename:

To make RPM insert the filename inside a command line, use the string "%s". For example, the command line "C:\WINDOWS\NOTEPAD.EXE /p %s" will cause the Windows "notepad" utility to open the file, print it, and exit.

Let's assume that RPM copies the data file from your print request to the path "C:\WINDOWS\TEMP\DF12.TXT". RPM will create the following command line for Windows: C:\WINDOWS\NOTEPAD.EXE /p C:\WINDOWS\TEMP\DF12.TXT. RPM will then execute this command line, and will log any problems encountered to the Log window.

If the program command line does not contain "%s", RPM appends a space and the path of the data file to the command line before executing the filter program.

Adapting our earlier example, let's say that the program command line is "C:\WINDOWS\NOTEPAD.EXE." Also, assume the data file path "C:\WINDOWS\TEMP\DF12.TXT". RPM will execute the following command: C:\WINDOWS\NOTEPAD.EXE C:\WINDOWS\TEMP\DF12.TXT

As before, RPM will then execute this command line, and will report any problems to the user.

Show filter

When a Windows program is executed, typically it is shown on the screen. Many users find it distracting to have application windows suddenly appear on the screen.

RPM gives you the option to "show" the filter program as an icon, a normal sized window, a full screen window (maximized), or not to show it at all (hidden).

Delete temp files

If RPM copies the data file to another location, it will optionally remove the new file after the filter program exits. We recommend that you leave this setting on, unless you have a need to keep these files. If this setting is turned off, verify your disk space often to avoid running out of room.

☞ **Note**: When RPM exits, it attempts to check the status of the filter program. If the filter program is still running at that time, RPM will not delete the temp file, and will not check later. You may need to perform your own temp file checks from time to time.

Run one filter program

We recommend that you run one filter program at a time. This will help ensure that your PC does not become overloaded if a number of filter jobs are sent at once.

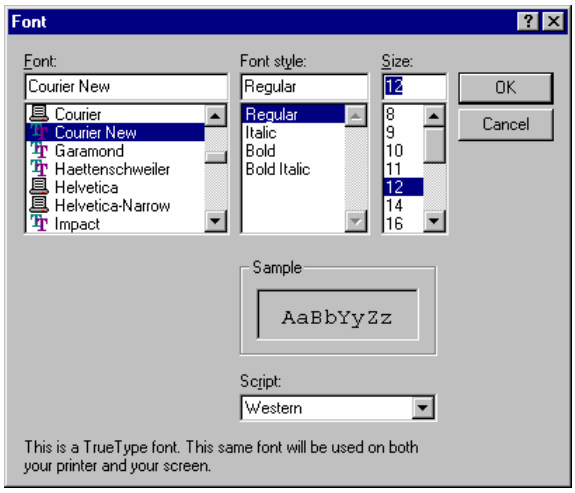
☞ **Note**: If this setting is off, RPM does not remove temporary files because it does not track the existence of the programs it executes.

Translate LF to CR/LF

Your host system may use only a line feed (LF) character to return to the next line. If this is the case, select this option to insert a carriage return (CR) before each LF. Most Windows printers and applications require both characters to represent the end of line. When used separately, they usually represent other scenarios.

Font dialog

Use the “Font” dialog to select a font for your print jobs. This is the standard Windows font dialog for the selected printer.



☞ **Note**: Only the fonts that your print driver supports will be displayed in this dialog. For instance, your printer may support the ‘lineprinter’ font, but not all print drivers allow access to this font.

Font

This list shows the fonts that are currently available. If a font is not listed, the print driver does not support it.

Each font in this dialog is represented by an icon. Each icon is explained in the following table.

TT	These are true- and open-type fonts that are rendered from line and curve commands. These fonts scale well and can be easily stretched both horizontally and vertically. These fonts are clean, even when the size is very large.
	These are raster or vector fonts that are rendered using bitmaps or drawn in an arrangement of line segments. Many of these types of fonts are provided only for legacy applications and output devices. As these fonts get larger, they may appear with jagged lines and look worse than true type fonts.

Font Style

You can select that the font be regular, italicized, bold, or bold and italicized.

Size

This option allows you to choose what size font to print. RPM may ignore the font size when scaling the font to a particular width and height, such as when ***Error! Reference source not found.*** is selected in the *Text Setup* dialog (page 56).

Sample

The sample shows what the font settings you have selected looks like as it is printed or displayed, including the size and style selected.

Script

The script lists the available language scripts for your chosen font. You will not necessarily be able to select the same script with a different font. If you wish to use a particular script, then the font you select must also support it.

☞ **Note**: RPM stores the font information for each queue; each time you print, RPM will use the font you selected for that queue. The font size may also be dependent on other queue settings.

Host Access dialog

The *Host Access* dialog allows you to restrict access to RPM based on the IP address or DNS hostname of the system requesting to print. By default, host access checking is disabled, allowing all hosts the ability to print through RPM. We recommend during initial configuration and testing that you retain the default settings. Once RPM is functioning as expected, host access checking should be enabled and custom rules applied.

Enable host access checking

Check this box to make RPM check access on each connection attempt. Uncheck the box to have RPM ignore access control.

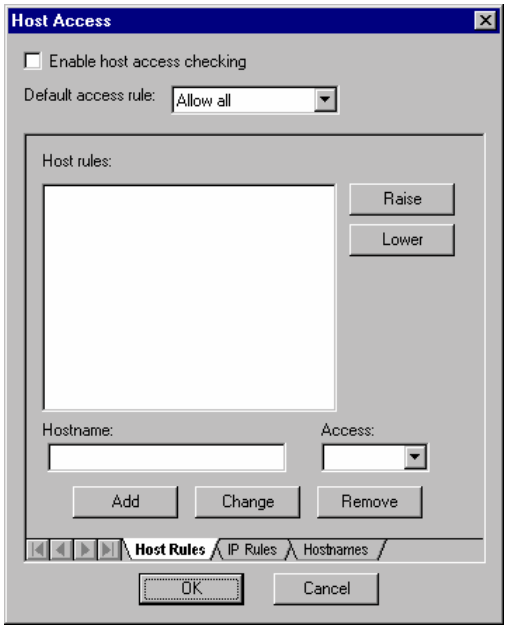
Default access rule

Use the drop-down list to set the default access to "Allow All" or "Deny All". The Host Access topic describes how the Default access rule is used.

☞ **Note**: For a detailed description of host access and how to configure custom rules, see page 10.

Host Rules Tab

The Host Rules tab allows you to create and modify the host rules for access control, as described in the Host Access topic on page 10. You can also change the setting that toggles whether host access checking is enabled, and what the default access rule is configured for.



How to

Add a Rule

1. Enter a host name or domain name pattern in the *Hostname* field.
2. Select the type of access, either Allow or Deny, from the *Access* drop list.
3. Click the *Add* button.

Change a Rule

1. Select a rule in the *Host rules* list.

2. Change the value in the *Hostname* field, and/or change the selection in the *Access* drop list, as appropriate.
3. Click the *Change* button.

Change the Order of the Rules

1. Select a rule in the *Host rules* list.
2. Click the *Raise* button to have this rule evaluated sooner; click the *Lower* button to have this rule evaluated later.

☞ **Note**: The order in which the rules are applied can cause significant changes in whether the host is allowed or denied access.

Host Rules

The Host Rules list shows the current rules in order, with the first rule at the top. Each rule contains the access control (Allow or Deny) and a host name or domain pattern

Select a rule in the Host Rules list. The host name and access appear below the list. You can also use the Raise, Lower, or Remove buttons if you have selected a rule.

Host name

The host name for the selected rule appears here. If you are creating or changing a rule, enter the host name here. Note that if the Host name field contains an asterisk character (*) that all characters to left of the asterisk will be removed when the rule is placed into the Host Rules list.

Access

This drop-down list shows you the current access, either Allow or Deny.

Raise/Lower

Click the “Raise” button to raise the priority of the selected rule, or cause it to be evaluated sooner. You cannot raise the first rule. Click the “Lower” button to lower the priority of the selected rule, or cause it to be evaluated later. You cannot lower the last rule.

Add

Click this button to add the host name or domain pattern, and selected access, to the list of Host Rules. The new rule will appear at the bottom of the list.

Change

Click this button to change the selected rule. The new rule will use the text in the Host name field, and the selected access in the Access drop-down list.

Remove

Click this button to remove the selected rule.

IP Rules Tab

The *IP Rules* tab allows you to create and modify the IP address rules for access control, as described in the Host Access topic on page 10. You can also change the setting that toggles whether host access checking is enabled, and the setting for the default access rule.

How to

Add a rule

1. Enter an IP address or pattern in the *IP Address* fields.

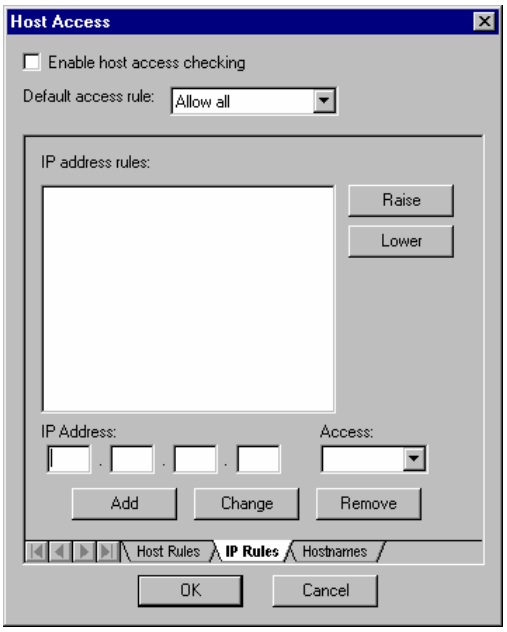
2. Select the type of access, from the *Access* drop list.
3. Click the *Add* button.

How to change a rule

1. Select a rule in the *IP Address* rules list.
2. Change the values in the *IP Address* fields, and/or change the selection in the *Access* drop list, as appropriate.
3. Click the *Change* button.

Use a rule sooner or later

1. Select a rule in the IP Address rules list.
2. Click the Raise button to have this rule evaluated sooner; click the Lower button to have this rule evaluated later.



IP Address Rules

The IP Address Rules list shows the current rules in order, with the first rule at the top. Each rule contains the access control (Allow or Deny) and an IP address or address pattern.

Select a rule in the IP Address Rules list. The IP address and access appear below the list. You can also use the Raise, Lower, or Remove buttons if you have selected a rule.

IP Address

The IP address for the selected rule appears here. If you are creating or changing a rule, enter the IP address here.

Shortcuts:

Note that the *IP address* fields are divided into four boxes, much like the address itself. Each field accepts up to three numeric characters and automatically shifts focus to the next field. The last field shifts focus to the *Access* drop list. When you type an asterisk (*) in any of the fields, the remaining fields (those to the right) are emptied and focus shifts to the *Access* drop list.

☞ **Note**: If any part of the IP address contains an asterisk character (*), all characters to right of the asterisk will be removed when the rule is placed into the IP Address Rules list.

Access

This drop-down list shows you the current access, either Allow or Deny.

Raise/Lower

Click the “Raise” button to raise the priority of the selected rule, or cause it to be evaluated sooner. You cannot raise the first rule. Click the “Lower” button to lower the priority of the selected rule, or cause it to be evaluated later. You cannot lower the last rule.

Add

Click this button to add the host name or domain pattern, and selected access, to the list of Host Rules. The new rule will appear at the bottom of the list.

Change

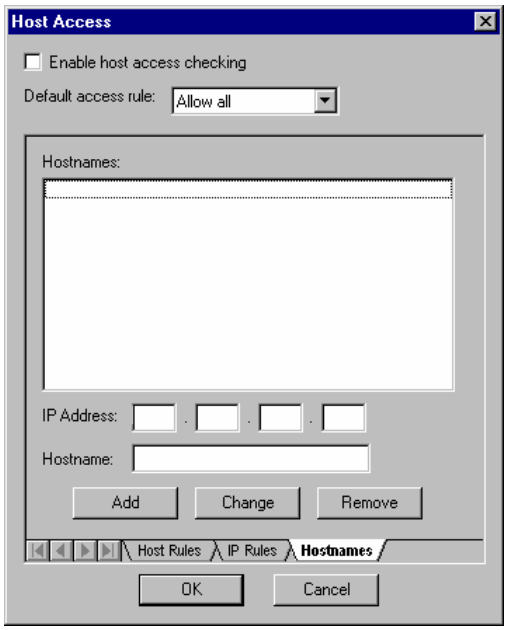
Click this button to change the selected rule. The new rule will use the text in the Host name field, and the selected access in the Access drop-down list.

Remove

Click this button to remove the selected rule.

Hostnames Tab

The Host Names dialog allows you to build a local host table for reverse name lookups; RPM looks for an IP address and wants to find a corresponding host name.



☞ **Note**: Hostname and IP address patterns are not allowed in this dialog.

How to

Add an IP Address and Hostname

1. Enter an IP address in the *IP address* field. These fields accept leading zeros and automatically move to the next field when you have entered three characters.
2. Enter a host name in the *Hostname* field.
3. Click the *OK* button.

Change the Hostname for an IP Address

1. Select the IP address in the *Hostnames* list.
2. Change the host name in the *Hostname* field at the bottom of the dialog.
3. Click the *Change* button.

Hostnames

The Hostnames list shows the current collection of IP addresses with corresponding host names. Select an item in this list to modify or remove it.

IP Address

The IP address for the selected rule appears here. If you are creating or changing a rule, enter the IP address.

☞ **Note**: The IP address is divided into four fields, much like the address itself. Each field accepts three numeric characters and automatically shifts focus to the next field. The last field shifts focus to the *Access* drop-down list. Unlike the *IP Rules* dialog, this dialog interprets each part of the IP address as a decimal number. The asterisk wildcard is not supported.

Host name

The host name corresponding to the IP address should be entered in this field. It is recommended that a fully qualified domain name is used when possible.

Add

Click this button to add the current IP address and host name to the Hostnames list.

Change

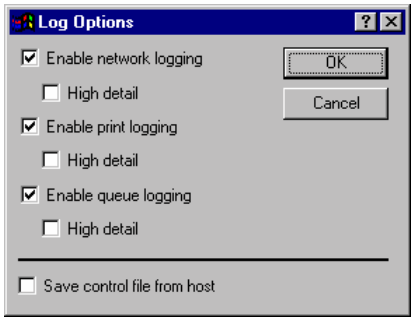
Click this button to remove the currently selected IP address and host name, and replace them with the fields entered above.

Remove

Click this button to remove the currently selected IP address and host name pair.

Log Options dialog

Use the *Log Options* dialog to set RPM logging options. You can find a description of the RPM logging facility including an explanation of the following terms in the topic How to Use Logging Options on page 16.



Enable network logging

If this setting is on, RPM will log network events.

High detail (network logging)

If this setting and Enable network logging are both on, RPM will log network events in significant detail.

Enable queue logging

If this setting is on, RPM will log events for RPM queues.

High detail (queue logging)

If this setting and Enable queue logging are both on, RPM will log queue events in significant detail.

Enable print logging

If this setting is on, RPM will log printing events.

High detail (print logging)

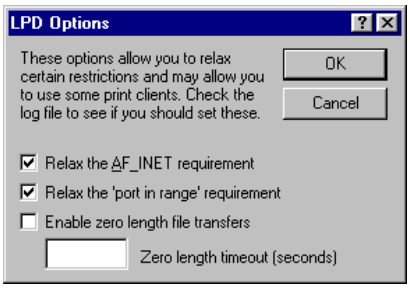
If this setting and Enable print logging are both on, RPM will log print events in significant detail.

Save Control File

If this box is checked, RPM will save the control file to the disk along with the data file. The name RPM will use for the control file will resemble the data file name, but it will have a “TXT” extension.

LPD Options dialog

The *LPD Options* menu option invokes the *LPD Options* dialog. These options involve the LPD protocol, a fairly esoteric topic. RPM can also allow and deny access based on the host name or IP address of the remote computer. See the Host Access topic on page 10 for more information.


LPD Options
These options allow you to relax certain restrictions and may allow you to use some print clients. Check the log file to see if you should set these.
OK
Cancel
Relax the AF_INET requirement
Relax the 'port in range' requirement
Enable zero length file transfers
Zero length timeout (seconds)

Relax the AF_INET requirement

This option relaxes the requirement that the print client use a certain (typical) option in they way they connect to RPM. If this requirement is necessary, the following message will be entered in the log.

Client protocol: AF_INET is expected

When this message appears, the client was prevented from making its request to RPM. This message is uncommon and is most likely due to a error in the client.

Relax the 'port in range' requirement

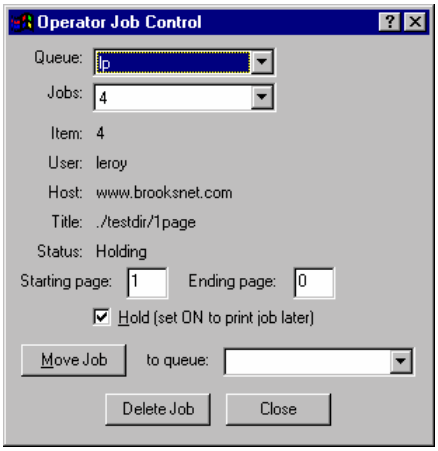
This relaxes the requirement that the client use a port in the reserved range, from zero to 1023. If this option needs turned on, you will see the following message in the Log window.

Client port n is out of range

When this message appears, the client was prevented from making its request to RPM. The problem is most likely due to a program not following the RFC 1179 specifications.

Operator Job Control dialog

The *Operator Job Control* dialog allows you to delete a job, move a job to a different queue, specify a range of pages to print, and hold or release a job. RPM does not allow a job to be deleted while it is being received or while it is printing.



How to

Delete a Print Job

Jobs can be deleted when the *Queue Status* (page 9) or *Queue List* (page 18) windows are open. RPM displays the current window in the application title bar.

To delete a job, first highlight the job you wish to delete. Click the *Operator* button on the toolbar; then press the *Delete Job* button.

If the queue is not suspended or the job is not holding, it may be processed before the delete operation is completed. You should first suspend the queue (see page 9) or make sure the job is held. If the job is not in transit, or being printed, the job will be deleted.

☞ **Note**: There is no Undo operation. Once the job is deleted, it cannot be retrieved except by printing it again to RPM. RPM also removes the control file, and all associated data files.

Release a Held Job

Highlight the job in the *Queue Status* or *Queue List* windows and click the *Operator* toolbar button (shown above). The *Operator Job Control* dialog shows the job sequence number and other identifying information.

If the job is held, then the *Hold (set ON to print job later)* checkbox is selected, uncheck it to release the job. If other queue states are configured for normal operation, the job will be immediately printed and the job information will be removed from the *Operator* display.

Move a Job from One Queue to Another

Highlight the job in the *Queue Status* or *Queue List* windows and click the *Operator* toolbar button (shown above). The *Operator Job Control* dialog shows the job sequence number and other identifying information.

Select the queue you wish to move the job to in the *Queue* drop list, then click the *Move Job* button.

Queue

The Queue drop-down list contains the names of the currently defined queues. When you select a queue, RPM puts the unique sequence number for all jobs in that queue in the Jobs list.

Jobs

The Jobs list contains the unique sequence number for all jobs in the queue selected in the Queues list. When you select a job, RPM displays identifying information for that job.

Item/User/Host/Title/Status

These fields contain information describing the selected job.

Starting/Ending page

RPM is able to start printing on a page other than the first and finish printing before the last page. Enter a numeric value greater than 1 for the starting page if you want to skip pages. If "Ending page" is set to 0, then RPM will not finish until the job is completely printed.

☞ **Notes**: For Text printing, RPM uses the values you enter in the Text Setup dialog (page 56) to count pages. However, for pass-through printing, RPM relies on page separators and your results may not be what you expect.

If you choose a starting page greater than the last page RPM encounters when printing, it holds the job and alerts you with a dialog box.

Hold (set ON to print job later)

This checkbox is marked ON if the job is held. In this case, click the checkbox to immediately release the job for printing.

Move job

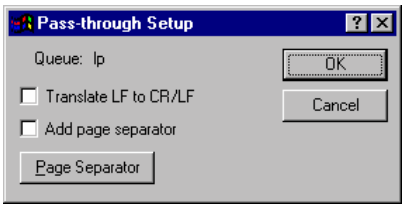
Click this button to move the current job to the queue you have selected in the to queue drop-down list.

Delete job

Click this button to remove the current job.

Pass-through Setup dialog

Sometimes with raw data, you may want RPM to make slight alternations. This should be done with plain text or text with escape sequences.



It is not recommend using these options with binary files such as HPGL (the language of Hewlett Packard plotters), nor should they be needed with PostScript. However, you can experiment to see what works best in your situation.

Translate LF to CR/LF

When printing from a Unix operating systems or another systems that use a single character line terminator, you should select this option as most Windows printers may not print the data correctly. Try selecting this option if you see a only a single line at the top of the page or a stair-step effect as shown.

This is line one
This is line two
This is line three

Add page separator

In some situations, users may want to separate print documents with a separator page or send a form feed so your printer will eject the page after printing the job. This option can be used in these situations.

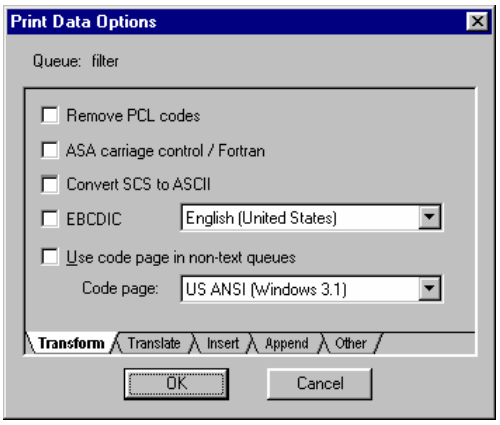
Page Separator button

By default, RPM uses the form feed character (hex 0C) as a page separator. Click this button to define your own page separator string, using the Edit Bytes dialog (see page 35).

Print Data Options dialog

The Print Data Options dialog allows you to make changes to your print data before printing. These advanced features are available with all three queue types: text, raw, and filter. For a description of queue types, see page 8.

Transform Tab



Remove PCL codes

RPM can remove PCL, HPGL, and PJL codes from incoming data, leaving plain text. These codes were developed by Hewlett Packard for use in printers, plotters and other output devices. Note that RPM strips PCL codes automatically for text type queues.

ASA carriage control / Fortran

When this feature is enabled, RPM will translate data that is formatted with FORTRAN or ASA carriage control codes. RPM will translate automatically when this box is unchecked if the LPR requested so using the standard Unix '-r' option.

Convert SCS to ASCII

SCS is an EBCDIC based markup language found on IBM mainframes and AS/400 midrange systems.

Select this setting to translate SCS markup commands. If you are using a text queue then RPM reproduces the original formatting for many SCS commands. Otherwise, RPM performs a simpler translation. If you select this function, RPM assumes that it will also be doing EBCDIC translation and will use the selected language setting as described below.

EBCDIC

Select this setting to translate EBCDIC into ASCII, using the selected language setting as described below.

Use (language)

IBM has defined extensions to EBCDIC for many locales. RPM currently supports these extensions for a variety of European languages. Examples of extensions include but are not limited to accented characters and diacritics. While RPM directly supports only characters found in ISO 8859-1, planned enhancements will provide support for a much broader range.

RPM attempts to match the EBCDIC language extension to your computer's locale. However, you can select any language setting.

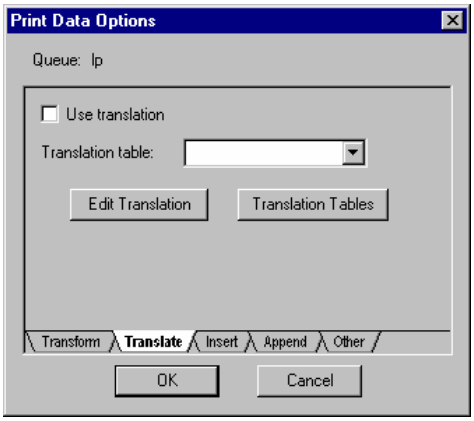
Use code page in non-text queues

If this box is checked, RPM will translate the data to the selected code page. Otherwise, RPM will not use the code page and not translate the data when using "raw" or "filter" type queues.

Code Page

This drop-down list contains all available code pages you have installed on your computer. If you wish to print in a different language, and you do not have the code page available on your system, you cannot use that language. Microsoft will supply support for different languages.

Translate Tab



RPM can perform character-by-character translations; see the Translations topic for more information.

Use translation

Put a check in this box if you want RPM to perform translations. The translation table must also be selected for this to be in effect.

Translation table

The Translation Table drop-down list contains the names of the currently defined translation tables. The selected table will be used for this queue.

Translation Tables

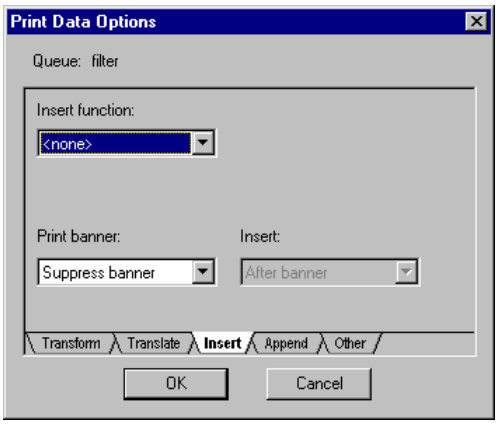
Click this button for a shortcut to the Translation Tables dialog. This way you can edit the contents of the translation table that RPM will use for this queue.

☞ **Note**: If you do not have a table selected in the "Translation Table" drop-down list, it brings up the Edit Translations dialog instead.

Edit Translations

Click this button to bring up the "Edit Translations" dialog.

Insert Tab



This function provides the ability to insert either a sequence of bytes or a file at the beginning of a print job.

Insert function

From this drop list, select the insert function you wish RPM to perform. Values are:

Insert Function	Description
<none>	RPM will not insert and data prior to printing it
Insert bytes	RPM will insert a byte sequence that you create
Insert file	RPM will insert the contents of a file

The default function is "<none>", meaning RPM will not insert any data into the print job before printing.

Edit Bytes

Click this button to create or review the bytes that RPM will insert before a print job. RPM uses the *Edit Bytes* dialog (see page 35). This button is visible only when *Insert Bytes* is selected in the *Insert* function.

Browse

Click this button to select a file for RPM to insert. This button is visible only when *Insert File* is selected in the *Insert* function.

File / Bytes

A static control is also provided that displays the path to the file RPM will insert if you select the *Insert file* function or the bytes to be inserted if you select the *Insert bytes* function. This is not visible until a file or sequence of bytes has been entered.

Print Banner

This option provides the ability to configure the banner page option. You can configure RPM to never print a banner page (suppress banner), to print when requested by the sending side (when requested), and to always print, regardless of whether the client requests it (always print).

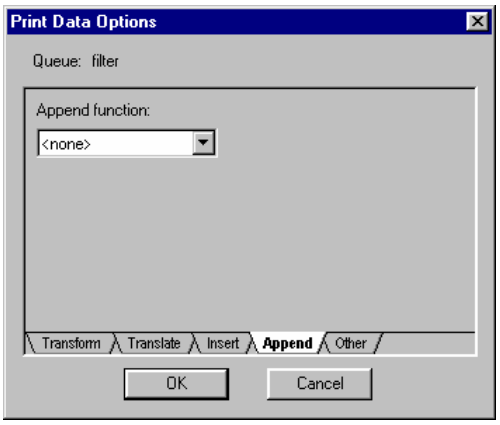
Insert Location

This option allows you to insert data either before or after the banner page.

☞ **Note**: This option is disabled unless both insert function and print banner are in use.

Append Tab

RPM can append either a sequence of bytes or the contents of a file at the end of a print job.



Append function

From this drop list, select the append function you wish RPM to perform. Values are:

Append Function	Description
<none>	RPM will not append data prior to printing it
Append bytes	RPM will append a sequence of bytes
Append file	RPM will append the contents of a file

The default function is "<none>", meaning RPM will not append any data before printing.

Edit Bytes

Click this button to create or review the bytes that RPM will append to a print job. RPM uses the *Edit Bytes* dialog (see page 35). This button is visible only when *Append Bytes* is selected in the *Append* function.

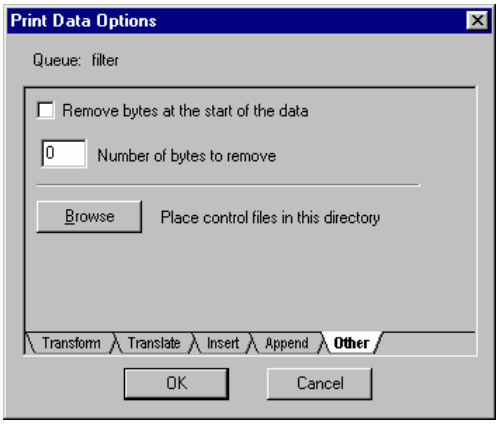
Browse

Click this button to select a file for RPM to append. This button is available when *Append File* is selected in the *Append function*.

File / Bytes

A static control is also provided that displays the path for the file RPM will append if you have selected the *Append file* function or the bytes to be appended if you have selected the *Append bytes* function. This is not visible until a file or sequence of bytes has been entered.

Other Tab



The *Other* tab provides further optional capabilities that are not categorized as transforming, translating, inserting or appending.

Remove bytes at the start of the data

When this setting is ON, then RPM will remove bytes from the beginning of a print job. Do this if your remote host is sending text data that starts with some number of non-text characters.

Number of bytes to remove

Enter the number of bytes for RPM to remove.

Place control files in this directory

The control file is information sent by the client that describes information about the print job and how it should be formatted for printing. Typical items found in the control file are:

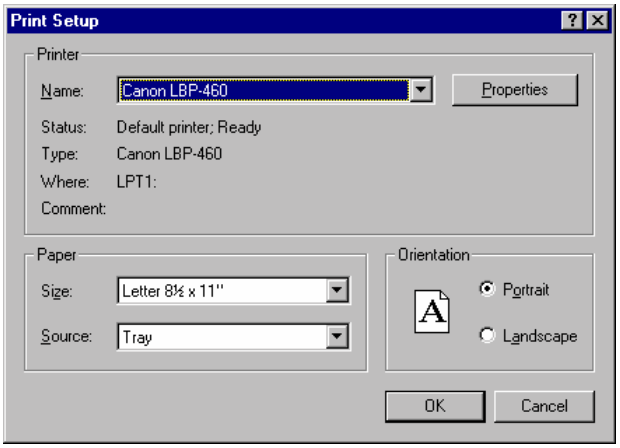
- The job name, source file, or title to be printed on the banner page.
- Print format, which includes preformatted, postscript and others.
- Number of copies; an option not native to the LPR/LPD protocol, but included in some LPR client implementations.
- The DNS hostname of the client and the username who submitted it.

Control files are not typically saved to disk. You can force RPM to save the control file to disk with a setting in the *Log Options* dialog, found on page 45. Here, you can specify a folder to save files to other than the default, which is the RPM Spool folder.

Browse

Press this button to find a folder that RPM will save the control files to. This folder should be checked often to avoid problems with the disk filling up.

Print Setup dialog



The following options allow you to select the destination printer and its connection.

Printer

Select the printer you want to use. Choose the Default Printer; or choose the specific printer you wish this queue to print to using the Name drop-down list.

☞ **Note**: You install printers and configure ports using the Windows Control Panel.

Orientation

Choose Portrait or Landscape.

Paper Size

Select the size of paper that the document is to be printed on.

Paper Source

Some printers offer multiple trays for different paper sources. Specify the tray here.

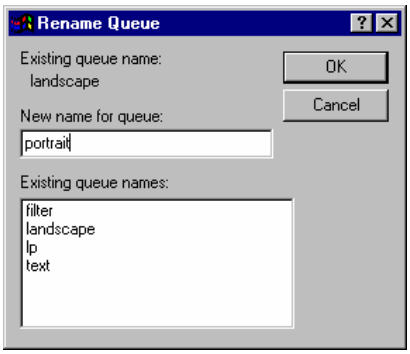
Properties

Displays a dialog box where you can make additional choices about printing, specific to the type of printer you have selected.

☞ **Note**: Print driver properties, orientation, and page source are not available in raw type queues. For a description of queue types, see page 8.

Rename Queue dialog

The *Rename Queue* dialog changes the name of a queue in RPM. The topic "Rename an existing queue" on page 15 discusses this further. This topic provides detail on using the actual dialog.



Existing queue name

This field shows the current name of the queue you are assigning a new name to. It is blank unless you selected a queue in the Queue Status window prior to opening the dialog, or until you select a queue in the Existing queue names list.

New name for queue

Fill in the new name you wish to use for the selected queue. RPM treats upper and lower case the same for queue name comparisons, so you need not rename a queue from "lp" to "LP", for example.

Existing queue names

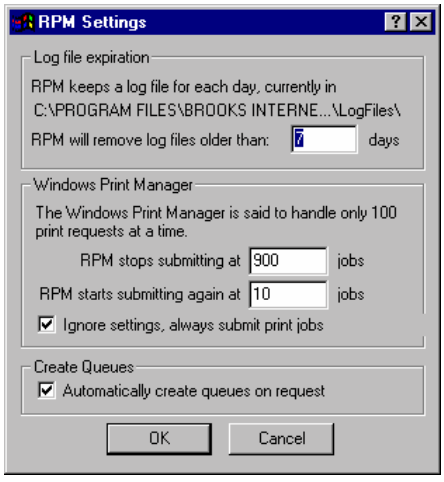
This list provides the names of the currently defined queues. As you type the queue name, RPM attempts to verify that the name is not already in use. RPM may highlight a name in this list if it matches what you have typed. This is only meant to inform the user of possible name conflicts.

OK

The *Rename Queue* dialog will attempt to rename the queue from the existing name to the new name, after filtering out invalid characters (such as space) and verifying that the new name is not already used for a queue.

RPM Settings dialog

The Settings menu option invokes the Settings dialog. The meaning of these items are explained in "Configuring RPM" on page 5. Below we offer guidelines for using this dialog.



Log file expiration

RPM keeps a log file for each day RPM is run. The default number of days that RPM keeps each log file is seven. After that, RPM will automatically delete them. You can change RPM to keep the log files between 1 and 366 days, or up to 1 year.

☞ **Note**: Exercise caution with this setting; as log files grow, they require more disk space. If you save numerous log files, check the folder often to make sure your disk has enough space.

Windows Print Manager

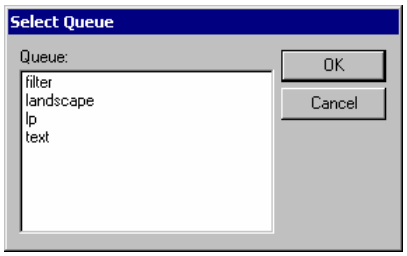
The dialog requires the user to enter a value in the high threshold that is greater than the value in the low threshold. Both values must be between 1 and 30,000. If there is more jobs in the Windows print spooler, RPM will not submit any more jobs.

Create Queues

When this function is in use, RPM will automatically create a queue if it gets request for one that is not already defined. The queue is created in a suspended to give users the ability to modify queue settings before printing. At this point, you will need to change the options and printer selection for the queue before printing will resume. This feature is on by default.

Select Queue dialog

This dialog automatically comes up if you try to change a queue state from the "Queues" menu without a particular queue being selected in either the *Queue List* or *Queue Status* windows.



Select a Queue

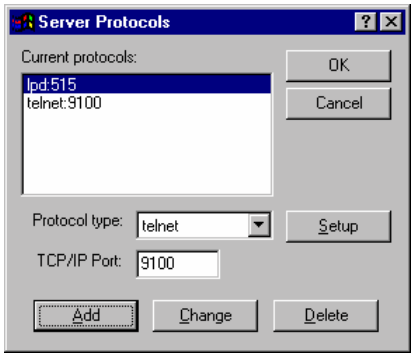
This list shows all queues that are currently defined in RPM. Highlight the queue you wish to modify and press the *OK* button.

Shortcut:
Double-clicking on a queue is the same as highlighting a queue, and clicking the OK button.

☞ **Note**: Click the *Cancel* button to dismiss the dialog without performing the requested operation.

Server Protocols dialog

RPM allows you to use TCP/IP printing protocols other than LPD. It also allows you to listen for incoming LPD connections on other ports that the 515 default.



RPM supports the telnet printing protocol, also referred to as reverse telnet or stream printing. This protocol requires you to enter a TCP/IP port number for RPM to bind to before data can be received. RPM also requires that you select a queue to process incoming print requests.

☞ **Note**: Specialized clients use the streams protocol. If you are having problems printing in RPM, consult the "Common Printing Problems" topic on page 4 before changing any of the settings in this dialog.

RPM allows you to define as many protocols as you like, and it will attempt to monitor all of them. Restrictions are enforced so users cannot create different protocols listening on the same port number.

How to Create a Telnet Port

1. Select a protocol from the *Protocol type* list. This will almost always be telnet.
2. Enter a port in the TCP/IP port field. For example, a typical port might be 100. Do not enter a port that is already in use.

3. Click the *Setup* button for more required configuration.

Current protocols

This list contains the currently defined protocols. Each protocol consists of a name and a port number. Names are either *LPD* or *telnet*; other names will be added if RPM supports additional protocols. The port number describes how TCP/IP finds a server, along with the IP address and other protocol information.

The default port number for the LPD protocol is 515. All known print clients expect to contact LPD print servers (e.g., RPM) on port 515.

Protocol type

When you define a new protocol, select the protocol type from this list. Chances are that most or all of your new protocols will be *telnet* and not *LPD*.

TCP/IP port

Enter a port number greater than zero (0) and less than 65,536. For telnet protocols, consult your network administrator or the person responsible for the streams print clients.

Setup

Click this button to get the Telnet Setup dialog (see page 55) for the selected protocol. RPM requires certain setup information for telnet protocols before it can accept input from telnet clients.

☞ **Note**: LPD setup is global, not specific to the port number. Therefore, no LPD setup is necessary.

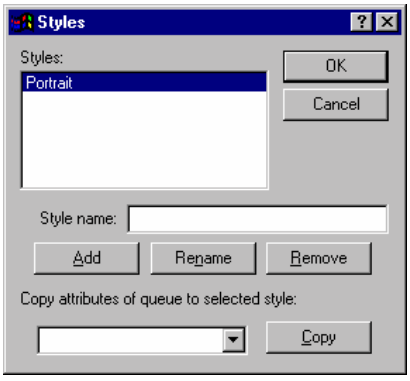
Add, Change and Delete buttons

Click the *Add* button to add a protocol definition to the *Current Protocols* list. Click the *Change* button to change the selected protocol to use the *Protocol type* and *TCP/IP port* values. Click the *Delete* button to remove the definition for the selected protocol.

Styles dialog

This dialog allows you to copy settings from an RPM queue and store those settings in a named "style." You can create, rename, and delete styles using this dialog.

How to



Create a Style

1. Enter a name in the Style Name field.
2. Click the Add button.

Copy Settings from a Queue

1. Select a style in the Styles list.
2. Select a queue in the drop-down list labeled Copy attributes of queue to selected style:
3. Click the Copy button.

Rename a Style

1. Select a style in the Styles list.

2. Enter a new name in the Style name field.
3. Click the Rename button.

Styles

The *Styles* list contains the names of the currently defined styles. Note that style names can contain spaces and other non-filename characters.

Style name

The Style name field allows you to enter a style name.

Add Rename or Remove

Click the *Add* button to add the name in the *Style name* field to the defined styles in the *Styles* list. Click the *Rename* button to rename the selected style to the name entered in the *Style name* field. Finally, click the *Remove* button to remove the selected style.

Copy

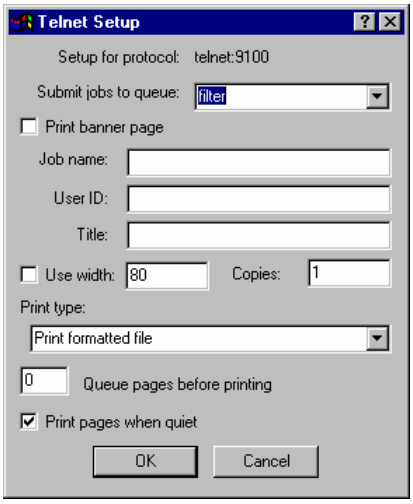
This button copies attributes of a queue to the selected style. Select a queue from the drop list; when you click the *Copy* button, this queue will be the one whose attributes are copied. Be sure you have a style selected.

Telnet Setup dialog

Use the *Telnet Setup* dialog to determine how RPM will print data sent to a telnet port. See the *Server Protocols* dialog on page 53 for more information on telnet ports.

How to Configure a Telnet Port

- You must select a queue from the *Submit jobs to queue* drop list. This is required and there is no default.
- If you are doing text printing we recommend that you fill in the user name and title fields.
- The field *Queue pages before printing* determines whether RPM will print while connected, or wait until the connection is closed.
- Use the remainder of this topic to help determine whether to fill in the additional fields or leave them blank.



Setup for protocol

This field contains the protocol and port being configured.

Submit jobs to queue

Select a queue from this drop list. RPM will not accept data sent to this protocol without a queue to send it to.

Print banner page

RPM will suppress the text banner page if this setting is off. The banner page applies only to Text printing.

Job name/User ID/Title

The *Job name* field specifies a value for data that is typically sent by a print client. The *User ID* field specifies a value for data that is typically sent by the client. The *Title* field specifies a value for data that is typically sent by the client. RPM uses it during text printing and in various other features.

Use width

The Use width field controls whether RPM will use the value in the *Width* field. An LPD print client sometimes sends width information, otherwise this setting, or the maximum width setting in the *Text Setup* dialog (see page 56) is used.

Copies

A print client may specify that RPM should print more than one copy of a print job. This field has the same effect.

Print type

A LPD print client typically specifies a print type. Choose a print type from this drop list.

Queue pages before printing

If the setting in *Queue pages* is zero, RPM will submit data received to be printed when the telnet connection is closed.

If the setting in *Queue pages* is greater than zero, RPM will submit data to be printed when the number of pages it has received reaches or exceeds the setting, without waiting for the telnet connection to close.

Print pages when quiet

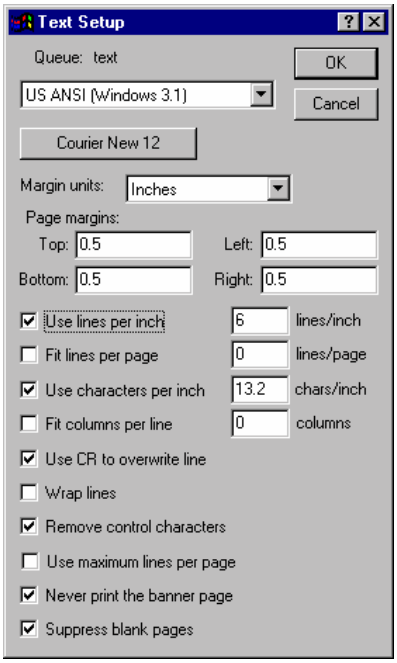
When this function is selected, RPM will print data it has received if the connection is quiet for ten seconds or more.

When this function is not in use, RPM prints data only when the connection is closed.

When to use this setting: This selection should be ON if your connection remains open for a long period of time, and you wish to print when the network activity stops temporarily.

Text Setup dialog

Use this dialog to edit settings used by text type queues (see page 8). Please note that there are many options, and that some options work differently depending on other values. Also note that additional dialogs that are accessed from the Text Setup dialog save their changes when closed, not when the *Text Setup* dialog is closed.



How to

Make Long Lines Shrink to Fit

1. Select a font if you have not already selected one.
2. Select *Use characters per inch* and/or *Use lines per inch* and input the appropriate *lines/inch* and *chars/inch*. Formulas for calculating these values are provided below.

Stop Printer Control Codes from Printing

This ability is possible only in certain circumstances. First, RPM removes PCL codes automatically. Here are some guidelines in configuring RPM to not print "garbage" data.

- Try configuring your print client to use a PCL driver. RPM automatically removes these codes without additional effort.
- Try setting *Remove control characters.*
- Try configuring your print client to not use a print driver at all, or configure it to use a plain text driver.

Stop Printing the Banner Page

You can stop RPM from generating a banner page by selecting *Never print the banner page*. If your remote host is generating a banner page, then we recommend that you hold the queue, and use the *Operator Job Control* dialog to begin printing on page 2.

Make 60 Lines Fit on a Page

Select the setting “Fit lines per page”. Enter 60 in the lines/page field.

See What Physical Margins My Printer is Using?

From the *Options* menu, select *Log*, turn on the *Enable print logging* and *high detail* options. The RPM log window will show the physical printer margins when you send a job to that printer.

Code Page List

RPM queries Windows for the code pages installed on your system. For instance, if your computer has Japanese language support installed, *Japanese* will be included in this list.

When you select a code page, RPM displays the *Font* dialog and instructs it to find fonts that support this language.

☞ **Note**: If you select a wide character set such as Japanese, RPM has the following restrictions:

- It will not wrap lines.
- It will not print line segments (*Use CR to overwrite lines*).
- It will not remove control characters.
- It will not translate EBCDIC to ASCII, do SCS conversion, remove PCL codes, or use custom translation tables.

Font

The text on the button face shows the name and size of the font selected for this queue. If the user does not select a font, RPM uses the default "Courier New 12".

Press this button to change the font face, style, and/or size.

Margins

RPM provides the option to set margins for the printed page. RPM supports a number of widely used units for setting fonts, including *Inches*, *Millimeters*, *Points*, and *Picas*. If your industry uses a unit other than these, please send email to support@brooksnet.com describing your needs. When you change the unit of measure for the margins, RPM automatically converts the margin settings.

Select margin units from the *Margin Units* drop list. Set your *top*, *left*, *bottom*, and *right* margins in the fields provided.

RPM attempts to use true margins, taking into account the physical page size and non-printing area at the top and left of the page, according to Windows. RPM supplies 1/2 inch as a default margin for the top, bottom, left, and right edges of the page, but you should change these settings to suit your needs.

☞ **Note**: The smallest margin your printer supports may be larger than the setting in RPM. If this is the case, either the text will be cut off or the physical margins will be used; this is dependent on the print driver.

Horizontal and vertical specifications

RPM supports two ways each to specify horizontal and vertical sizes. You can *Use lines per inch* or *Fit lines per page*, not both. Similarly, you can *Use characters per inch* or *Fit columns per line*, but not both. The font height and width

are independent; if you specify both the width and height, RPM will stretch or compress the font. If you specify only the width or height, RPM preserves the normal shape of the font.

☞ **Note**: RPM will use your selected font size only if the height is smaller than the font scaled height. For example, if you select an 8-point font and 6 lines per inch, RPM will use the smaller 8-point size and place the lines as you specify.

Use lines per inch

To use this function, check *Use lines per inch* and type a value in *lines/inch* setting; this forces RPM to print a specific number of lines-per-inch. RPM reduces the font size automatically if necessary. If the current font size is already small enough, that font size will be used.

How to calculate lines per inch: On each page, I want to print contains 66 lines. The paper setting is portrait and the page height is 11 inches. The margins are set to 0.5 inches on both the top and bottom.
LPI = 66 / (11 - (0.5 + 0.5)) = 6.6

Fit lines per page

When you select *Fit lines per page* and use a value in *lines/page*, RPM determines the vertical distance between the top and bottom margins, and calculates the font size that best matches the settings. This setting may produce a slightly different result that the *User lines per inch* setting.

Use characters per inch

To use this setting, check the *Use characters per inch* box and specify a value in *chars/inch* field. RPM will now generate a font of the appropriate width. If you select both *Use lines per inch* and *Use characters per inch*, lines-per-inch is reinforced by RPM and characters per inch may be reduced to accommodate your lines-per-inch settings.

How to calculate characters per inch: The longest line in the file is 80 characters, the paper setting is portrait, and the page width is 8.5 inches. The margins are 0.5 inches Left and Right
CPI = 80 / (8.5 - (0.5 + 0.5)) = 10.66

Fit columns per line

RPM allows you to set a maximum line length, and specify whether or not it will be used. RPM considers tabs when calculating line length. When you select this option and specify a value in the *Columns* field, RPM calculates the correct characters per inch using the horizontal distance between the left and right margins.

This setting works in conjunction with the *Wrap lines* setting.

When you check this box, RPM turns on *Wrap lines*. With *Wrap Lines* on, and *Maximum line length* on, RPM will wrap lines using the length specified.

If this setting is on but *Wrap lines* is off, RPM will truncate lines using the length specified.

Use CR to overwrite line

Some hosts use the line feed (LF) character to mark the end of a printed line, and the carriage return (CR) character to denote a line that is to be overprinted, or printed on top the current line. Select *Use CR to overwrite line* to cause RPM to recognize this convention. Otherwise, RPM treats LF, CR and CR/LF as line terminators.

☞ **Note**: This setting is forced when using the *ASA carriage control / Fortran* setting in the *Print Data Options* dialog (see page 48).

Wrap lines

RPM has the ability to wrap lines when the lines do not fit the page width. The way RPM does this depends on whether the *Maximum line length* is set or not. If the *Fit columns per line* setting is selected, RPM uses the character count to determine if a line is too long, taking tabs into account.

If *Fit columns per line* is unchecked, then Windows calculates the length of the line using the current font, and determines if the line will fit between the current left and right margins.

If needed, RPM can use both white space, such as space (0x20) or tab (0x9) and non-word characters to find a place to break a line. Word characters are A to Z (upper and lower case), digits, and some punctuation characters. Dashes and hyphens are not included, so these can break a word.

Remove control characters

Our tests have shown that some systems insert NULL characters (that is, a character with the ASCII value zero) into a print job before sending it to RPM. Apparently some printers ignore these characters, but Windows does not.

RPM gives you the ability to strip control characters from the file before printing. In this context, control characters are defined as characters with ASCII value less than the space (0x20), excluding carriage return (0x0D), line feed (0x0A), and form feed (0x0C).

Use maximum lines per page

RPM allows you to set the maximum number of lines to print on a page. RPM will pick the lesser of this value, if you specify it, and the value determined by the font, page size, and top and bottom margins. RPM uses the *lines/page* value from *Fit lines per page*.

☞ **Note**: In most situations, *Fit lines per page* supercedes this function.

Never print the banner page

The LPD protocol specification says that the banner is printed by default, and the print client must suppress the banner for each job. However, RPM allows you to suppress the banner for a queue, whether the print client does or not.

Suppress blank pages

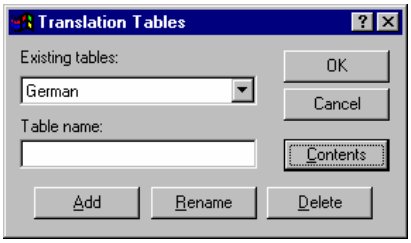
If this setting is on, then RPM will not print a new page following a form feed or blank lines exceeding the page height, until it sees data on the new page. Note that this setting is on by default. This should help RPM accommodate many mainframe based systems and save on paper costs.

OK/Cancel

The *OK* button closes the *Text Setup* dialog and saves changes. The *Cancel* button closes the dialog without saving the changes except if you have changed the font, in which case, that change has already been saved. Note that the *Font* dialog saves its own changes independent of the *Text Setup* dialog.

Translation Tables dialog

The *Translation Tables* dialog allows you to create and manage translation tables. See the Translations topic on page 12 for more information on RPM translations.



How to

Add a Table

1. Enter a table name in the *Table name* field. Use a name that does not already exist.
2. Click the *Add* button.
3. Click the *Contents* button to define a set of translations. See the Character Translations topic on page 32 for more information.

Rename a Table

1. Enter a new name in the *Table name* field.
2. Select a table name in the *Existing tables* drop list.
3. Click the *Rename* button.

Edit the Contents of a Table

1. Select a table name in the *Existing tables* drop list.
2. Click the *Contents* button. The *Character Translations* dialog appears, with your table selected.

☞ **Note**: If you do not define any contents for a table, RPM will not be saved.

Existing tables

The *Existing tables* drop list contains the names of translation tables already defined in RPM. This list is empty if none are defined.

Table name

The *Table name* field allows you to enter new and changed table names. As you type a name into this field, RPM searches the list of existing names and highlights a match, if found.

Add/Rename/Delete

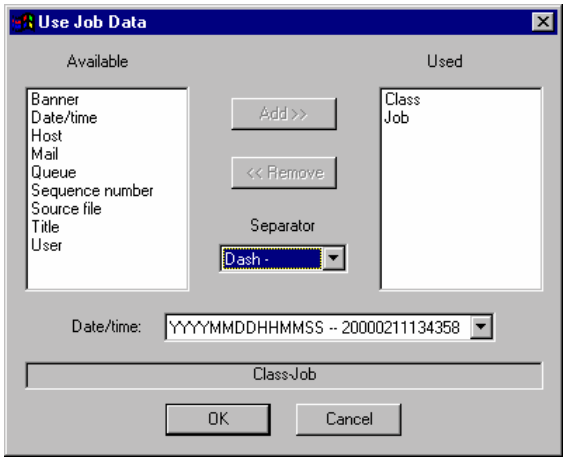
Click the *Add* button to create a table; the contents of the *Table name* field are used for the new name. Click the *Rename* button to change the selected table to the name in the *Table name* field. Click the *Delete* button to remove the currently selected table, and the definitions in it.

Contents

Click the *Contents* button to edit the contents of the currently selected table, using the *Character Translations* dialog.

Use Job Data dialog

The *Use Job Data* dialog is used for saving filenames with customizable names. There are now many ways to name files for ease of recognizing where, when, or who actually sent the file to RPM. This may allow for better tracking in your organization.



Available

These are the options available for use in your filename that you have not already used. There are a variety of things to choose. For instance, if you want to save your file based on who sent it and when they sent the file, you would choose *User* and *Date/time*.

Used

This is the box showing which options you have chosen to use for your filename. The order they are listed from top to bottom is the same order as the name will be saved from left to right.

This order can be customized two ways:

1. Click and hold a value in this list and drag it either up or down in the priority.
2. Remove all options below where you want a new stored, then insert them in the correct order.

Add / Remove

These buttons allow you to add available job data or remove used job data.

Separator

This is the character you want separating your data in the filename. For instance you can make your filename 'dave_www.brooksnet.com.txt' or 'dave-www.brooksnet.com.txt". It just depends on what you want separating the data.

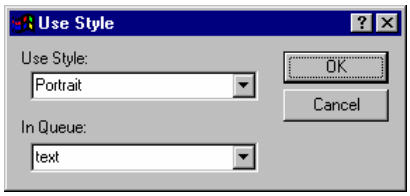
Date/Time

This is where you would choose the format for the date. You can choose a 2-digit or 4-digit year, whether you want the year coming first or last, etc.

Use Style dialog

The *Use Style* dialog allows you to copy the queue settings saved in a style, back to a queue. This way you can easily change the behavior of an RPM queue.

How to Copy a Style to a Queue



1. Select a style from the Use style drop-down list.
2. Select a queue from the Queue drop-down list.
3. Click the OK button.

Use Style

Click the *Use Style* drop down list to select which style you want your queue to use.

In Queue

Click the *In Queue* drop list to select which queue to copy the style contents to.

New In This Version

Version 2.5

New features

Resource Scheduler

- Provides faster turnaround for all printing tasks
- Uses resources with greater efficiency
- Includes new Resource Status window

Print Error Recovery

- Printing resumes automatically when an error is resolved

Brooks License Manager

- License Wizard enhances ease of use
- Supports advanced products and features
- Enhanced support for license reinstallation
- Web-unlock can connect through a proxy server/firewall

User Interface

- Displays long job names
- Updated default settings
- Added support for importing and exporting configuration
- Changed "Resume" to "Suspend"
- Enhanced support for specifying control file destination
- Help file updated
- Filter queue disables printer selection

Core

- Supports banner page for all queue types
- Improved file handling
- Updated default settings
- Allows insertion of bytes or files before or after banner page

Issues Resolved

- Resolved issue with opening and closing queue display
- Resolved issue where dialogs were not using correct system colors
- Resolved issues in data with imbedded null characters, including ASA translations
- Resolved issue with blank page handling
- Batch files are now displayed by default when browsing for programs to execute.
- Fixed memory leak in filter queue processing
- Resolved issue with overwrite filename handler to overwrite with the correct name.
- Fixed issue where disabled queues were created again when a print job was requested to that queue name

Glossary

Host name: A host name is the name assigned to a host computer on a TCP/IP network. It must be unique on the network; that is something your network staff usually takes care of. Every computer on your network has its own name, from the mainframe to the PCs. Sometimes it is a one-part name, for instance, ws48 has only one part. At other times you might need to use a fully qualified name, such as ws48.brooksnet.com; this example is multipart. Your network staff can advise you on this.

Often, you can substitute the IP address for a host name. Ask your network staff for assistance with this.

Print job: RPM can receive several kinds of requests. One of these requests actually results in printing, so it is referred to as a print job. The other requests RPM might receive result in RPM returning status information, and sometimes performing an action on a queue or one or more jobs.

RPM spends most of its time dealing with print jobs. First it receives a print job, each of which contains several parts (see "Files created by RPM" on page 7). Then RPM stores it in a queue, and later processes it. Finally, RPM removes the job.

Queue: In RPM, a queue is a list of print jobs, each with a common destination. RPM queues are uniquely identified by their name. Each queue has characteristics that you can set in the Edit Queues dialog (see page 36). For instance, two queues might use the same Windows printer, but each queue might use different fonts, or one might use portrait and the other landscape.

Queue name: Each queue has its own unique name. Queue names cannot contain "white space", that is, spaces or tabs. This would violate the LPD Protocol specification, which describes how information is passed between print clients and servers. RPM treats queue names as case insensitive; that means upper or lower case does not matter. For instance, you can define the queue "lp" and clients can use queue "LP" or "Lp" or “lP”; these letter combinations all refer to the same queue.

Root directory: The root directory plays two roles in RPM. First, it contains the spool directory. Second, it is the directory that contains the log files directory. Future versions of RPM may create other directories in the root directory.

Sequence number: RPM assigns a sequence number to each print job, based on information found in the queue.ini file in the queue directory. You may notice this number in the Queue Status window (see page 9) in the far left column.

ASCII Codes

ANSI Character Set (Character Codes 0-255)

Dec	Hex	Char	Code†	47	2F	/	95	5F	_
0	00		NUL	48	30	0	96	60	'
1	01		SOH	49	31	1	97	61	a
2	02		STX	50	32	2	98	62	b
3	03		ETX	51	33	3	99	63	c
4	04		EOT	52	34	4	100	64	d
5	05		ENQ	53	35	5	101	65	e
6	06		ACK	54	36	6	102	66	f
7	07		BEL	55	37	7	103	67	g
8	08		BS	56	38	8	104	68	h
9	09		HT	57	39	9	105	69	i
10	0A		LF	58	3A	:	106	6A	j
11	0B		VT	59	3B	;	107	6B	k
12	0C		FF	60	3C	<	108	6C	l
13	0D		CR	61	3D	=	109	6D	m
14	0E		SO	62	3E	>	110	6E	n
15	0F		SI	63	3F	?	111	6F	o
16	10		SLE	64	40	@	112	70	p
17	11		CS1	65	41	A	113	72	q
18	12		DC2	66	42	B	114	72	r
19	13		DC3	67	43	C	115	73	s
20	14		DC4	68	44	D	116	74	t
21	15		NAK	69	45	E	117	75	u
22	16		SYN	70	46	F	118	76	v
23	17		ETB	71	47	G	119	77	w
24	18		CAN	72	48	H	120	78	x
25	19		EM	73	49	I	121	79	y
26	1A		SIB	74	4A	J	122	7A	z
27	1B		ESC	75	4B	K	123	7B	{
28	1C		FS	76	4C	L	124	7C	|
29	1D		GS	77	4D	M	125	7D	}
30	1E		RS	78	4E	N	126	7E	~
31	1F		US	79	4F	O	127	7F	
32	20	(space)		80	50	P	128	80	€
33	21	!		81	51	Q	129	81	
34	22	"		82	52	R	130*	82	,
35	23	#		83	53	S	131*	83	*f*
36	24	$		84	54	T	132*	84	"
37	25	%		85	55	U	133*	85	...
38	26	&		86	56	V	134*	86	†
39	27	'		87	57	W	135*	87	‡
40	28	(		88	58	X	136*	88	ˆ
41	29	)		89	59	Y	137*	89	‰
42	2A	*		90	5A	Z	138*	8A	Š
43	2B	+		91	5B	[	139*	8B	‹
44	2C	,		92	5C	\	140*	8C	Œ
45	2D	-		93	5D	]	141	8D	
46	2E	.		94	5E	^	142	8E	Ž

143	8F		181	B5	µ	219	DB	Û
144	90		182	B6	¶	220	DC	Ü
145	91	'	183	B7	·	221	DD	Ý
146	92	'	184	B8	¸	222	DE	Þ
147*	93	"	185	B9	¹	223	DF	ß
148*	94	"	186	BA	º	224	E0	à
149*	95	•	187	BB	"	225	E1	á
150*	96	-	188	BC	1/4	226	E2	â
151*	97	-	189	BD	1/2	227	E3	ã
152*	98	˜	190	BE	3/4	228	E4	ä
153*	99	™	191	BF	¿	229	E5	å
154*	9A	š	192	C0	À	230	E6	æ
155*	9B	›	193	C1	Á	231	E7	ç
156*	9C	œ	194	C2	Â	232	E8	è
157	9D		195	C3	Ã	233	E9	é
158	9E		196	C4	Ä	234	EA	ê
159*	9F	Ÿ	197	C5	Å	235	EB	ë
160	A0		198	C6	Æ	236	EC	ì
161	A1	¡	199	C7	Ç	237	ED	í
162	A2	¢	200	C8	È	238	EE	î
163	A3	£	201	C9	É	239	EF	ï
164	A4	¤	202	CA	Ê	240	F0	ð
165	A5	¥	203	CB	Ë	241	F1	ñ
166	A6	¦	204	CC	Ì	242	F2	ò
167	A7	§	205	CD	Í	243	F3	ó
168	A8	¨	206	CE	Î	244	F4	ô
169	A9	©	207	CF	Ï	245	F5	õ
170	AA	ª	208	D0	Ð	246	F6	ö
171	AB	"	209	D1	Ñ	247	F7	÷
172	AC	¬	210	D2	Ò	248	F8	ø
173	AD	-	211	D3	Ó	249	F9	ù
174	AE	®	212	D4	Ô	250	FA	ú
175	AF	¯	213	D5	Õ	251	FB	û
176	B0	°	214	D6	Ö	252	FC	ü
177	B1	±	215	D7	×	253	FD	ý
178	B2	²	216	D8	Ø	254	FE	þ
179	B3	³	217	D9	Ù	255	FF	ÿ
180	B4	´	218	DA	Ú			

Indicates that this character is not supported by Windows.

• Indicates that this character is available only in TrueType fonts.

† The "Code" column is meaningful only for characters 1-31.